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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. 1.—*Spermatorrhœa. A paper read before the Drake Society of the city of Columbus.* By R. N. BARR, M. D., Columbus, Ohio.

GENTLEMEN :—In a paper read before this association some months since, I remarked, that in looking abroad upon the wide and repulsive field of physical disease, it was a difficult matter for the young practitioner to make a selection for special investigation.

I then wrote, not for the purpose of bringing before this Society new and fanciful theories, or demonstrating facts, but for eliciting discussion and information upon a subject* that to me at least, (and I fear I was not alone,) was too little understood, both as to its pathology and therapeia. And happy am I to say, I was not disappointed in my wishes. The result of discussions at that time has been a "beacon light" to me in practice since. I now write for the same purpose and hope for the same result.

The subject chosen for present remarks, is one of which I saw or heard but little during my preparatory course, and that little was gathered almost entirely from hospital and clinical instruction and observation; but since my accession to practice, am convinced that it is fearfully common, especially in large towns and cities. Nor is it a disease of to day, produced by the licentious and erratic disposition of the present age. The close observer finds it alluded to in "Holy Writ." The earliest records of the human family furnish evidence, that even in the morning of its history, the race outraged

* Infantile Entero Colitis.

its nature by defiling sensual vices. In the Mosaic writings we find several passages which show us that even in those primitive times and among God's chosen people, the gross crimes which in after times prevailed to such an extent in the "Imperial City" were by no means unknown. And the world, especially the medical world, has seen that the highest degree of intelligence and intellectual culture cannot redeem a people from the foulest moral leprosy—for side by side with the proudest monuments of *art*, vice and crime in their most loathsome aspect, presented themselves, and breathed foulness everywhere. And in our own day, obstinately resisting the purifying influences of the true and holy religion, human society is cursed by the prevalence of practices and vices foul, loathsome and destructive as those which mingled in the polluted rites of obscene heathen divinities. Then vileness was less disguised, men gloried in their shame. Now in secret and in darkness the destroyer taints the atmosphere and swells the number of its victims. Now "the physician is the depository of the fearful secrets of depraved human indulgence. He sees the fearful wastes that often lie beyond the boundaries which to the common eye indicates regions of flowers and sunshine—when all seems full of promise, he often can discern the canker at the heart."

But let us proceed to look into the cause and effect of this *leakage*, its symptoms, its pathology, its treatment, &c. First—Its cause or causes; these are numerous and various. I believe it may depend on original constitutional debility. It may be inherited, or in the language of *Holy Writ*, it may be the iniquity of the fathers upon the children even to the third and fourth generation of them that hate him and keep not his commandments.

It may depend somewhat upon occupation. I believe I have seen a case of Spermatorrhœa produced by riding on horseback. It may be caused by Gonorrhœa. These cases, I may here remark, are the most intractable. But far the most common cause is masturbation.

> In vain we scan the springs of human woe,
> To find a deadlier or more cruel foe
> To erring man, than this sad self-pollution,
> This damning wrecker of his constitution.

In its foul march it tramples vigor down,
Darkens the soul, usurps the mental throne,
Preys upon the vitals of its filthy slave,
And drags him early to a hopeless grave.
Could this truth to all be known and foreseen,
A sea of misery would be spared the world,
And *hell's* own engine from the land be *hurled.*

The fire of heaven on *Onan* quickly fell,
Cursed was the culprit ere he sank to hell,
Brief was the period 'twixt the noxious deed
And the dread chastisement, pollution's meed.
Just as certain now as then, is the indulger undone,
Not by etherial stroke as there we see,
But equal in effect and certainty,
For death results although by slow *degree.*

An undue excitation of the genital parts, arising from excessive coition may also produce the seminal loss. The irritation persisting in the spermatic organs after the cessation of these excesses may keep up an excessive secretion of seminal matter, and give rise to precipitate ejaculations under the influence of erections that are incomplete. And finally, as to the causes, the relaxation of the ejaculatory ducts, which very soon follows inflammation or pathological irritation of the parts, produced by any cause whatever, eventually induces evacuation of the *semen* either with or without an erection—in the former case generally during a lascivious dream or a momentary excitement of a lascivious character, and in the latter case, the emission takes place during defecation or the emission of urine.

Authors speak of the different modes of spermatic evacution, and of different stages of the disease. There certainly are different modes of evacuation and different stages, but gentlemen, I believe the transition between the modes are in the vast majority of cases so insensible that it is impossible for patient or practitioner to correctly appreciate it. The same remark holds true in regard to the different stages of the disease, as laid down by Young, Lallemand, and other writers. In ten or twelve cases that have come under my observation, and of whose history I have made some notes, four of which I treated, I have not seen a single case which I could distinctly place in the first, second or third stage. The stages become so blended together, that a line of demarcation cannot be formed of the stages, distinctly separated either in theory or practice.

Pathological Anatomy has left us but few materials on this subject. The cause of this meagerness is evident. But few persons die of Spermatorrhœa as the immediate cause; but by it their nervous system becomes prostrated, thus rendering them an easy prey to any epedemic, or more vital destroying disease, which absorbs the whole attention of the pathological inquirer.

But we know beyond a doubt, that in Spermatorrhœa there is pathological irritation or inflammation of the mucous membrane of the genito-urinary apparatus. Originally this may be and doubtless is, a local trouble, but by contiguity and continuity of structure, it may extend to almost an unlimited extent, attacking and destroying the physiological action of organ after organ, until the whole animal economy becomes involved. In the onset of the disease there is an irritated or an inflamed mucous surface of the urethra in the prostatic region, extending to and involving the ejaculatory ducts; these ducts become relaxed, perhaps inflamed and ulcerated, and instead of responding to the stimulus of the sperm, flowing from the vesiculæ seminales and forced back, to be absorbed and give stimulus and strength to the system, it remains in the ducts and is forced out under the least lascivious excitement, or involuntarily during sleep or in the act of urinating or defecating. In this stage, should the patient present himself for treatment, and the Surgeon be fortunate enough to detect the true cause of the trouble, and the actual condition of things, the remedy would be easy, simple and complete. But this is seldom the case, and the beginning of the end of the trouble, difficulty, pain, and suffering, both physical and mental is not seen.

The inflammation may extend by continuity of structure through the vesiculæ seminales, involving the vasa defferentia and extending the whole length of the spermatic chord, and attack the scrotal viscera, producing epididymitis or orchitis. Or the inflammation may take another direction and attack the neck of the bladder, and pass along the ureters to the kidneys, and destroy the physiological action of these organs of vital importance, and thus involve the whole animal economy, producing a train of evils almost if not entirely, beyond the power of *medical aid.*

But in the majority of cases we think the inflammation is less progressive and less acute in its character—seldom reaching suppuration or a high degree of inflammation, but merely producing a

relaxed condition of the genito-urinary apparatus, allowing a constant, teasing, enervating leakage, resulting in partial or total impotency.

Sometimes, especially if preceded or accompanied by gonorrhœa, the whole length of the urethral canal becomes inflamed, and even ulcerated, causing great pain in micturition, and tedious and painful erections, and rendering catheterism excrutiatingly painful.

Let us now proceed to examine the symptoms. These as in most other maladies, are of two classes, objective and subjective, either of which may lead the practitioner to an incorrect diagnosis.

The former are generally read in the face of the patient. The unhappy victim wears a careworn expression of countenance or he is timid and evasive, avoiding society, especially that of chaste and virtuous ladies. He is slow to answer questions and answers in monosyllables or in the fewest possible words. The white portion of his eyes is watery and of a yellowish tinge. The voice somewhat hoarse and husky, the sense of hearing, in bad cases of long standing, obtuse. There is almost universally dark, semicircular spots beneath the eyes. Some or all of the above symptoms are present in Spermatorrhœa, but none of them belong exclusively to this disease; hence, in making our diagnosis, they are not to be depended upon without the confirmation of the subjective symptoms. These are numerous, but a few will suffice. The patient will tell his medical adviser, that on arising from his bed in the morning he is not refreshed, that his sleep has been broken, that he had unhappy dreams, that he sometimes perspires freely during sleep, he has headache, bad taste in his mouth, and coated tongue. His appetite is variable, no relish for the morning meal. A little exercise fatigues him, a trembling weakness has seized upon his limbs, his bowels are torpid, and while in conversation with him he will be startled by every noise in the street or in an adjoining room. The slaming of a door or the fall of a book, a sudden touch, or even passing, or speaking to him unexpectedly, will startle him "like a guilty thing." Cowardice is a sure consequence of Spermatorrhœa. But the pathognomonic symptom is the LEAKAGE—*the Spermatorrhœa.*

But gentlemen, even in this, let us not deceive ourselves. Every spermatic looking fluid that oozes from the meatus-urinarius is not a spermatorrhœa; it may be a gleety, or a mucous discharge secreted by the mucous membrane of the urethra alone, produced by any

cause that may get up an irritation or inflammation of that membrane. When the discharge is full and free, and passed during a lascivious dream or thought, or when freely passed in urinating or defecating, there is not much danger of mistaking the true character of the *fluid*, but when the leakage is small, constant, and other symptoms doubtful, chemical analysis or the microscope is the only sure test.

In connection with all the symptoms given or manifest in a case, we think the diagnosis need not be difficult. But in prognosis we must exercise great care and prudence, lest we deceive both the patient and ourselves.

As a general rule the nature of the disease is such as to render it amenable to treatment, but the character of the patient is often such as to render all treatment *abortive*. This brings us to the most difficult part of our subject. *The treatment.*—Hitherto this has been mostly in the hands of "quacks" and unprincipled pretenders, who have seduced into their clutches by their glowing advertisements of wonderful cures, the unfortunate victims, and drained them of their money as well as their "semen." Recently, however, it is coming into the hands of the regular profession where it belongs. And it becomes us to be ready to treat it scientifically at least, and successfully if we can.

There are two modes of treatment recognized by the profession—one surgical and the other therapeutical, or perhaps more correctly speaking, one local, the other constitutional. But in our opinion, he who depends exclusively on the one or the other, will find himself disappointed in the result.

It is by an ingenious and well-timed combination of both local and general treatment, that the most happy results are to be arrived at.

In the outset of our treatment the cause must be looked into and removed, else all treatment will be abortive. This is oftentimes no slight task. If there are complications, (and they are frequent,) they must be met and removed. These preliminaries having been attended to, leaves, so to speak, a clear field and an open fight.

If the case be recent, the emissions nocturnal, the patient somewhat plethoric, the constitution not much involved, and the inflammation limited to the prostatic portion of the urethra—a brisk

cathartic containing aloes, on account of its derivative effect, and a half dozen leeches applied to the perineum, followed by a blister, will in a great measure reduce the inflammation. And on retiring at night, the exhibition of a drachm of spirits of camphor and two or three gr's of quinine will prevent the emission and insure a comfortable night's rest.

After the inflammation has been subdued, catheterism cautiously managed, and a proper regimen, will generally restore the organs to a state of health and functional regularity. If the catheter fails, the cautery exercised by means of *Lallemand's "Port Costique,"* will generally effect the cure. But as before remarked, we seldom see the patient until the disease has assumed a grave form. The patient will tell his medical adviser that he has both nocturnal and diurnal emissions, and sometimes without the slightest erection, or that he is perfectly impotent, that he has a heavy, dragging sensation in his loins, testicles, and thighs, that he has headache almost constantly, and that he is fast losing flesh, that he suffers great prostration, both mentally and physically, and finally, that life is a burden to him. Here too, on inquiry, we will find a variable appetite, and great constipation, urinating painful. Altogether the case is a formidable one, but not a very uncommon one. How is it to be treated? A general antiphlogestic treatment would but hurry the unfortunate victim to an already opening grave. Catheterism would be more excruciatingly painful than crucifixion, and we think useless if persisted in. The cautery is equally out of the question. Again I ask, how are we to treat such a case? Gentlemen, I give you Prof. Child's reply to the same query: "Treat it upon general principles." By this I mean to resuscitate the shaken and falling system by the most powerful tonics, and among these are cod-liver oil, sulphate of iron, gentian, quinine, quassia camphor, &c. At the same time mitigate and remove local difficulty as far as possible, by local measures, viz: cupping, leeching, and counter-irritation. These means cautiously exercised, and faithfully persevered in, will generally bring the patient into a condition for the catheter and the cautery. Of course a proper regimen is to be enforced, including bathing and exercise. But I know of no better way to give the detail of treatment, than to report a case that came under my treatment, while yet an undergraduate and a student of the late Dr. HOWARD.

Mr. ———, aged about 26, occupation merchant tailor, of sanguine temperament, when in health, of florid complexion, red hair, and blue eyes. The history of the case, previous to the time he came under my care is briefly as follows: In the spring of 1849 he was seized with the *Gold Mania*, and emigrated to California. He was then in perfect health, having gone through the war in Mexico unscathed—had never had gonorrhœa, though he had had frequent intercourse with "*Senoritas*" of that country. But in California he found "*timber*" of that character scarce, and prices extravagant, consequently, to use his own term, he was compelled to resort to MASTURBATION *to relieve nature of its surcharged elements.*

He practiced the brutal habit constantly for two years. At about the end of that period of time, to his great surprise he began to have nocturnal emmissions. He then, by a desperate effort of the will, abandoned the habit of self-pollution, but to his great chagrin the emissions continued and increased in frequency.

In a few months he became so enervated from the drain as to be unfit for business, and about the first of Jan. 1853, he started home on the Panama route. The sea voyage produced great constipation of the bowels, and in his straining efforts at stool, he discovered the peculiar leakage; soon after it appeared on urinating, and like an "evil spirit, it haunted him at every step—in his sleeping and waking hours."

At the time I first saw him, the least excitement would produce the emission, and by no effort of the will could he obtain sufficient erection for sexual intercourse. Nor indeed, had he the least disposition to do so. He was thin, pale, appetite poor, night's sleepless, slight cough, suffered constant pain in the head, and incapable of much exertion physical or mental.

On examination I found the whole length of the urethra tender, but the prostatic portion exceedingly so, some blood and purulent matter followed the exit of the *bougie.*

The testicles were softer and smaller than natural, and disposed to hang down so as to annoy him, and he complained of a sense of great weight in the pelvic region. Treatment.—I applied the scarifier to the perineum and by means of the suction cups drew about two oz. of blood—soon after applied to the part a blistering plaster of cantharides—took off the cuticle and kept open the sore for some days. Gave him nightly a three gr. pill composed of equal parts of

camph. quinine and ext. of hyosciamus. In ten or twelve days there was a decided improvement; the emissions were much less frequent, headaches disappearing—much less urethral tenderness. I then commenced catheterism and practiced it daily, and put him upon the following:

℞ Ferri Sulphatis gr. X.
Cupri Sulphatis gr. V.
Quiniæ Di Sulphatis gr. XV.
Ext. Quassia qs. to make mass.

Divided into 2 gr. pills, of which one was taken morning and evening after eating. Also ordered a cold "*douche*" bath every morning, and the brisk use of the dumb bells ten or fifteen minutes. He was allowed no ale, wine, or *tobacco*, nor strong coffee—his diet was limited strictly to stale bread and milk, softly boiled eggs, and beef or mutton roasted, and plenty of ripe fruit. He was kept on this treatment and regimen for about two months. At the end of this time the diurnal discharge had ceased, the nocturnal not occurring oftener than once in a week. He complained of no more headache, his mind was clear, appetite much improved, and slept well. His bowels had become entirely regular. I then cauterized the prostatic portion of the urethra, using Lallemand's Caustic Holder, and changed the prescription to cod-liver oil, which he took freely; continued the same regimen. On the use of the cod oil he increased rapidly in flesh. In a fortnight I repeated the cautery. In a few days after the second cautery he left for his home, saying that he felt once more like a man, and he never again would make a beast of himself.

In about two months he returned to me saying he had the discharge about once in from two to three weeks. I cauterized him again, and recommended matrimony and the *physiological* use of the *organs*.

I heard no more of him till April last, when I received a note from him inviting me to call on him at the Capitol House in this city. I did so and found him the happy husband of a beautiful wife—"and (to his great joy,) coming events are casting their shadows before."

ART. II.—*Cancrum Oris.* By the EDITOR.

AN instance of this rare and fatal disease occurred under our observation in the month of August last. It happened to a child two years and five months old. The patient was delicate, and had but a short time previously experienced an attack of measles. As the eruption disappeared, a slight degree of soreness was developed on the inside of the mouth, on the left side. This, at first, attracted but little attention, from the fact that it was attended with diarrhœa, which was the only thing looked upon by the parents as being grave. After the lapse of about two weeks the affection in the mouth began to swell the cheek, which continued to increase until a blue spot, of about the size of half a dime in diameter, made its appearance on the cheek, near the front margin of the masseter muscle. It was at this stage of the complaint that we first saw the patient. On examining the inside of the mouth, the mucuous membrane of the gums on both jaws was found to be sloughing, and emitted a very offensive odor. The gangrenous process extended rapidly through the cheek, and spread to the left eye, the root of the nose, and upon the upper part of the neck. As it progressed the edges of the tissues involved assumed a dark, charred appearance, attended with serious offensive discharges. The patient lived about two weeks after the gangrene was developed; and at last seemed to die from the exhaustion incident to the sloughing. During the last two weeks of its illness its appetite was voracious, even when it had not the ability to direct the food with the cheeks and tongue to the esophagus.

The duration of the case was about four weeks, dating from the time that the stomatitis was first noticed.

The *treatment* was such as the books suggest. Nothing that was done, however, made the least impression on the destructive process.

Cancrum Oris is very likely to be mistaken for ptyalism, and the attending physician charged with mal-practice. We are surprised that our works on the diseases of children do not discuss the differential diagnosis more elaborately. In the first stages the two diseases may resemble each other. In their history and progress, however, there are points that assist in making out a correct diagnosis. Cancrum Oris seldom, if ever, makes its appearance in children of good constitution. It selects those of lymphatic temperament, enfee-

bled by poor diet, bad air, or previous disease. Ptyalism, on the contrary, is as liable to occur in children of strong, robust habits, as any other. Cancrum Oris is really a gangrenous process, characterized by a strong tendency to spread; mercurial ulcers are not so destructive on the cohesive and vital forces of the parts. Again, the black, charred edges of an ulcer connected with Cancrum Oris differ very materially from the raw, irritable ulcer in the mercurial disease; besides, the former has little, if any, sensibility; in the latter, the sensibility is apt to be exalted.

PART SECOND.

AMERICAN AND FOREIGN INTELLIGENCE.

ART. I.—*Report of the Committee of the American Medical Association on Medical Education, made at its last Annual Meeting in St. Louis.*

In view of the thoroughness of the discussion which the subject of medical education has heretofore undergone in the regular reports of appropriate committees, and of the reiterated expression of the sentiments of the Association, that may be regarded as exponents of the now settled opinions of the great body of the medical profession in the United States, your committee have experienced no little embarrassment in selecting topics of remark which have not already become trite from frequent repetition. The precise line of duty of a standing committee on medical education was, indeed, indicated by the constitution, but the clause which prescribed the annual appointment of such a committee, and defined its duties, was stricken out of the constitution, by a vote of the Association at the Charleston meeting in 1851; and when, at the next annual meeting held in Richmond, it was resolved "that special committees on medical education and medical literature be appointed, consisting each of five members," it was apparently the intention of the association to allow to future committees a wider latitude of discretion as to the scope and direction of their inquiries, than might have been consistent with the limitations imposed by the terms of the original law.

Under this construction of their powers, and in view of the fact just alluded to, that a very full and satisfactory body of information touching several points of interest connected with the general subject of medical education in the United States, as compared with that in other civilized countries, may be found in former reports included among the published transactions of this Association, your committee have felt themselves authorized to abstain from any further discussion of such points, and to confine their attention to "such measures, prospective or established, in reference to medical education and the reputable standing of the profession, as they may deem worthy of special consideration."

The fact being universally admitted that the ranks of the medical profession are rapidly filling with young men very inadequately qualified, either as respects native endowments or positive attainments, for assuming the fearful responsibilities of their vocation—the practical questions which, as your committee conceive, demand their especial consideration, have reference to the particular features of the existing system of medical education in America which are most instrumental in producing such a result, and to the most judicious, safe, and practicable means for remedying the evil. In the consideration of this question, the committee believe that they could not present the subject to the association in a more suitable form than by a recapitulation of the several particulars in respect to which the system of collegiate medical education in the United States has been the subject of unfavorable criticism, and by an inquiry in regard to the extent to which the measures hitherto taken by the Association have had the result of removing or lessening the defects against which they were directed.

1. Among these defects, the want of a proper preliminary education on the part of a large, we fear a constantly increasing, proportion of medical students, has received the earnest attention of the committee. To this deplorable evil, the existence of which is so easily recognized by the unprofessional community, we may justly ascribe the diminished confidence accorded to regular physicians, and the "forfeiture of social position" that has attended the loss of the homage which the profession formerly received. To the same cause may be attributed, in some degree at least, the gradual lowering of the standard of professional attainments required of the candidates for graduation; since it cannot be otherwise than that such standard should bear some relation to the average talent and

mental culture of the pupils. This subject was considered so important by the members of the national medical convention which met in New York in 1846, as to induce that body to appoint a special committee "to report on the standard of acquirements which should be exacted of young men, before being received as students of medicine." That committee addressed inquiries to thirty-six medical schools, as well as to several distinguished medical practitioners in different parts of the Union. From the answers received, it appeared that there was then no uniform standard of preparatory education exacted of medical students, but that the profession seemed to be alive to the want of such a standard, and desired one to be established by the convention. The inquiries of the committee further elicited the expression of a very considerable diversity of opinion as to the kind and extent of preparation which ought to be exacted, the standard of different writers varying from "a common school education" up to the highest collegiate attainments. The committee, in view of the want of any means of legal compulsion, thought there could be no hope of attaining any useful result by insisting upon a standard above the circumstances of the country and the times, and recommended the establishment of "a uniform standard of preliminary education for medical students, which should be of a moderate character—in the first instance too low, rather than too high—and yet of such an extent as will insure both the knowledge and the mental discipline necessary to those who would enter a profession full of labor and responsibility, without excluding meritorious young men of limited means and opportunities." They then proceeded to specify the following standard as one which might reasonably be exacted of every young man who should apply to be received as a student of medicine: "A good English education; a knowledge of natural philosophy, and the elementary mathematical sciences, including geometry and algebra, and such an acquaintance, at least, with the Latin and Greek languages, as will enable the students to appreciate the technical language of medicine, and read and write prescriptions." It must, we think, be conceded, that the standard thus recommended by the committee, and adopted by the Philadelphia convention, in May, 1847, with an evident desire to effect a gradual reform by gentle and safe methods rather than to make bold and radical changes, was in all respects moderate and reasonable. Your committee have not the data necessary for the formation and expression of a positive opinion as to the extent to

which this or any other standard has been exacted of young men wishing to enter upon the study of medicine, either under private preceptors, or in collegiate classes. So far, however, as their information extends, they have reason to fear that there has been but little, if any real reform in regard to this matter during the seven years which have elapsed since the action of the Philadelpdia convention. There are, however, gratifying indications of future improvement. Thus, the report of Dr. Pitcher, at the last annual meeting of this association, makes known the fact that "it is in contemplation," by the authorities of the University of Michigan, "to exact the same preparation for admission to the medical department as is now prescribed for membership in the department of arts." At a recent meeting of the Medical Society of Virginia, held April 6th, 1854, the following resolution, offered by the retiring president, Dr. Atkinson, was unanimously adopted:

"Resolved, That the members of the society now present, do hereby pledge themselves to each other, that they will not receive under their instruction, as a student of medicine, any individual who may be grossly deficient in either mental or moral endowments, or in that preliminary education which is necessary to fit him for entering a profession requiring high intellectual and moral qualifications; and that we respectfully and earnestly recommend to our brethren throughout the State to adopt a similar rule of action."

Your committee do not doubt that the faculties of all the most respectable schools of medicine in the Union, are truly anxious to conform to the recommendation of the association in respect to this measure of proposed reform, and would cheerfully submit to some pecuniary sacrifice, if there were a reasonable guarantee that the desired end could be thereby attained. But as the imposition of rigorous conditions of matriculation by a few of the schools will, it is believed, have no other result than to drive a large proportion of their students to such other institutions as will exact from the candidates for graduation but slender requirements of labor and of learning, it seems scarcely reasonable to hope that, under existing circumstances, the principal medical schools should adopt a policy which threatens to prove so ruinous to their interests, while it offers no compensating advantage to the profession at large.

Moreover, in some of the medical colleges the faculty is not clothed with the authority of prescribing the conditions of matriculation. This is the case with the medical department of the Univer-

sity of Virginia, which is owned and supported by the State. The government is lodged in the hands of a board of visitors appointed by the governor of the State; and no member of the faculty has a voice in their deliberations. All that the faculty have to do, with reference to the point under consideration, is to dissuade young men whose preliminary education is known or believed to be defective, from entering the medical department until further and more satisfactory preparation shall have been made. In such cases the student is either transferred to some of the academic classes, or permission is granted him to withdraw entirely from the institution. In no instance has the faculty refused permission of withdrawal, with a return of tuition fees, to a recent matriculate, whose preliminary education has been shown to be defective, provided he would pledge himself not to matriculate in any other medical school until he should have duly qualified himself for the study of medicine by appropriate preliminary mental culture. If it be asked whether this system of moral suasion suffices to eliminate all the defective material of a large class of fresh matriculates, we are constrained to reply that it is far otherwise. Quite a large proportion of the members of the class in each year are very inadequately qualified for commencing their medical studies, and not a few incapable of ever becoming so.

Is there, then, no remedy for an evil which has done so much to dishonor a profession once noted for the profound and varied learning of its members? Your committee are of opinion that it would be premature to come to so discouraging a conclusion. They do not yet abandon the position which was ably sustained by the late Dr. Parrish, in a report made to the Philadelphia convention, that "the influence of combined and harmonious action, directed to a special object, by the great body of the profession, is a power more potent than that exercised by legislatures, or by the corporations they may create." The operation of such an influence is, however, slow, and we should not be impatient if ample results are not rapidly attained. One of the instrumentalities through which it operates is gradually being brought to bear upon the solution of the difficulties which thwart the attempts that have hitherto been made to introduce this and other measures of medical reform. We allude to the organization of State and county medical societies, the manifold usages of which agencies are too obvious to require exposition.

2. A second alleged defect of the "American system" is the

shortness of the term of lectures. A resolution adopted by the convention held in Philadelphia in 1847, recommending an extension of the term, in all the medical schools, from four to six months, has been repeatedly sanctioned by the Association. A few of the schools promptly complied with this recommendation, but a part of them, as we are informed, have since found it expedient to abandon the experiment, and to resume their former practice. This fact illustrates the difficulty attending every attempt to carry out any very decided measure of reform, on the part of a few of the schools, while the majority refuse to co-operate. Unfortunately, there exists a difference of opinion as to the advantages of the proposed extension of the term. It will be remembered that the medical faculty of Harvard university, presented to the Association at its second annual meeting, held in Boston in 1849, a formal defence and advocacy of the four months' course, in preference to a more extended term. The faculty of the medical department of Pennsylvania college, in replying to a circular of the committee on medical education for the same year, appear to have taken a similar view. They assume that the "American system" of medical education consists in the instruction derived from "private preceptorship mainly," with the college and hospital as its complement;" and argue that "either we should labor to perfect that system according to its idea, or we should abandon it for another as radically wrong. Any attempt to alter or amend it, according to an essentially distinct plan, will prove a ruinous patching." They further express the "fear that the recent so-called reform agitation tends to loosen the connection of the preceptor with his pupil, and to lessen his responsibility, without adequately supplying the loss;" and contend that "such must be the effect of any considerable increase in the course of lectures." The committee do not deny that there is some plausibility in this view of the subject, and that some of the arguments advanced have force in their application to the prevalent system of medical education in this country; but they are far from acquiescing in the conclusion that no reform in this respect is needed. They would rather adopt the alternative presented in the argument last cited, and conclude a system which regards the plan for instruction by public lectures "as subordinate and subsidiary" to private instruction, as radically wrong." This system takes it for granted that even the first-course students have "read" with a private teacher prior to their attendance on lectures. But when it is borne in mind that the fundamen-

tal branches of medical science, on which the whole superstructure of professional education must rest, are precisely those which require for their proper and successful exposition, the use of such appliances of demonstration as can be supplied by public institutions alone, it will be admitted that such preparatory "reading" is not always advantageous, and may be injurious. A medical student, reading in the office of a physician residing in a rural district, cannot enjoy the advantage of studying practical anatomy. Hence, most of his reading is on the subjects of practical medicine and surgery, in which he forms the most vague and erroneous notions with regard to the structure and laws of action of the organs, the diseases of which he is studying; and such notions do not always easily give place to the simple truth, when this is subsequently presented. In cities and the larger towns, the case is admitted to be often different. There, the pupils may have access to hospitals and dissecting rooms, and there, too, organized voluntary associations of private teachers supersede, almost wholly, the old system of instruction by a single teacher. Such associations are, however, medical schools in all but the name, and thus do not, in point of fact, constitute a real exception to the principle on which we would insist. Not being entitled to confer the diploma, and basing their claims on the confidence and patronage of the more aspiring students, or the thoroughness of the instruction they offer, many of them give a more full, and especially a more practical course than is required in the regularly incorporated medical colleges. Such private schools are admitted to be most valuable auxiliaries in the cause of medical education, and are entitled, in the opinion of the committee, to an encouraging notice from the Association. It would, however, be wise, in view both of a judicious economy, and of the likelihood of thereby insuring the largest amount of practical benefit from the educational instrumentalities at the command of the American medical student, to assign to those auxiliary organizations such work only as cannot be adequately performed by the incorporated schools with larger classes,—"such as demonstrations on the part of the student, instead of the instructor, but still under his superintendence and direction;" the actual performance of surgical operations on the dead body; chemical manipulations; the use of the microscope; and clinical instruction, truly so called, which is the study of diseases at the bedside, cases being watched from commencement to end, with special attention to the use of the physical means of diagnosis

in the diseases of the lungs and heart. Such instruction as this is of inestimable importance. It cannot be given by lectures alone. The student must practice for himself, under the supervision and direction of a competent teacher; and only a class of limited number can receive adequate attention from one instructor. Such instruction should, therefore, be the appropriate work of a corps of teachers auxiliary to the public schools. From its very nature it can be profitable only to advanced students. In the opinion of your committee, it should follow, rather than precede or accompany, the instruction imparted in the public schools. The latter should consist mainly in a didactic exposition of the elementary principles of the medical sciences. In this view of the subject, the committee are inclined to believe that very great advantage would result from an extension of the course of lectures to even a longer term than that heretofore recommended by the Association. In addition to the very obvious evil of crowding six or seven lectures into the compass of a single day, another striking objection to the present system lies in the fact that the practical branches of medical science are of necessity unfolded to the student before he has had an opportunity of becoming acquainted with the elementary principles upon which they are mainly based. For example, his attention is directed to, and his mind bewildered with, an intricate account of the causes and varieties of convulsive diseases, before he has obtained any useful degree of knowledge of the anatomy and physiology of the nervous system, upon which the prevalent doctrines as to the pathology and rational therapeutical indications of such diseases entirely rest. If the term of lectures were extended, it would be possible to diminish the number of lectures for each day, and to make such a distribution of the several branches as would insure an opportunity for the thorough study of the anatomy and physiology of every organ, before the attention of the student should be directed to its pathological states, while several hours would be appropriated to private reading and reflection, and to the practical study of anatomy by means of dissections by daylight.

Regarding, then, "the American system" of medical education by "private preceptorship mainly," at least as that system is carried out in the rural districts, and, consequently, for a large majority of American students, "as radically wrong," your committee would advocate the substitution of a plan which would bring the whole circle of *elementary* medical education within the province

of the schools. It has already been intimated that your committee assent to the truth of some of the general principles set forth in the argument of the medical faculty of Harvard university, against the extension of the term beyond the period of four months. The fallacy, as we conceive, lies in the application of these principles. We have no hesitation in admitting the truth of the statements contained in the following extracts: "No course of lectures, however prolonged, can give complete instruction in any department of professional study." * * * * "Lectures cannot communicate all the knowledge of the profession; they cannot approach this." * * * * * "The great purpose of lectures should be, to teach the student to learn for himself. They are not to take the place of private, individual study, but to inform the pupil how that study may be pursued to advantage. Much may be done by the teacher, in this way, to develop the principles according to which medical investigations are to be pursued; to teach the student right modes of thinking, reading, and observing; to aid him in forming just views of the proper objects of inquiry, by laying before him examples of the best ways of getting at the truth." * * * * "Learning is a thing which no man can do for another; the weight of education must fall upon the learner; what he does not get, and make his own, by the active exercise of his own powers, he does not get at all; he must not merely receive, he must take." * * * *

"It is further to be observed, that a disproportioned dependence upon lectures as on means of instruction is likely to beget injurious habits of mind in the student. The object of the teacher is, or should be, to present the truths he wishes to enforce, and the knowledge he seeks to impart, in a form as attractive as the nature of the subject admits, in order to engage and keep up the attention of the student. Hence, although the student may listen with interest, he does it without effort; his mind is not actually employed." With the exception of the last paragraph which, as asserting that it should be the object of a lecturer to present his subject in so attractive a form as to dispense with the necessity of active effort on the part of the student, conveys a most mischievous error, the force of the foregoing remarks cannot be denied. But it should be observed that they may apply as well to private teaching as to instruction by public lectures; and that, in either case, they apply to the abuse alone, and not to the right use of the system. It especially deserves notice that the abuse in question is almost necessarily inci-

dental, not to the lecturing system, but to the short term system, and might be more easily avoided if the proposed extension of the term were generally adopted. The weight of education must fall, unquestionably, upon the pupil; and any system, whether that of public lectures or private preceptorship, which aims to dispense with constant and hard labor on the part of the pupil, is mischievous in proportion to its success. The question is not whether teaching by lectures be better than active, personal study, since these are by no means incompatible, but whether personal study will be most advantageously aided and directed by a judicious course of instruction by lectures, or by "private preceptorship mainly," with "the school as its complement." The medical faculty of Harvard university, though intending to address themselves to the latter question, have, in reality, only discussed the former, all the while assuming the existence of an antagonism between the system of teaching by lectures, if the course be too prolonged, and the habit of active personal study. Your committee do not admit that such antagonism exists. On the contrary, they are firmly convinced that "the active, practical discipline of the mind" is one of the most certain results of the right use of the system of teaching by lectures. Indeed, we have always thought that it was the failure of the old system of exclusive text book study and recitation to secure this practical discipline of the mind, that led to the adoption, in all the higher institutions of learning in Europe and America, of the practice of public lecturing. Under this system, the intelligent student, following in the train of thought pursued by the lecturer in his discussion of doubtful questions, in his analysis of complex phenomena, and in his inductions of general truths from particular facts, learns to perform, for himself, the works so difficult to those who have only studied by a mechanical routine of unreflecting labor, of critical analysis, and inductive generalization.

In order, however, to insure the full success of this system by a right use of it, and by preventing that abuse which is truly obnoxious to the criticism of the medical faculty of Harvard university, and which, unhappily, is too prevalent, it is indispensable that searching examinations should be given, each day, on the lectures of the preceding day. It is this combination of the two systems which is productive of the most wholesome results. Those who have had experience in this matter know how wonderfully the faculties of the mind are stimulated in listening to a discourse on the

topics, arrangements, and illustrations in regard to which we expect to undergo a public examination. It is objected that "such examinations amount to very little" when the class is large, and each student is examined at long intervals only. As a test of the industry of an unwilling student who is to be stimulated *only* by the fear of disgrace, these examinations would, it is admitted, amount to very little. But it is a great mistake to assert that, as a means of instructing students of average capacity and ambition, their usefulness is much impaired by the large size of a class. A particular question, although addressed to an individual, is nevertheless, heard by all, and they may mentally answer it, comparing their respective answers with that of the reciting pupil, or with the explanations made by the teacher. Thus, all may derive equal benefit with the person who alone was questioned. Nor will there be wanting a sufficiently potent stimulus, in the case of the candidates for graduation, in those, at least, who know that although they may not have to take part in the recitation of the day, they may be called upon to answer the same questions at their final examination. If the teacher propounds his questions, as certainly he should, in such a form as to throw upon the student the burden of analyzing a complex subject submitted to him for elucidation, it is impossible to exaggerate the benefit which the latter may derive, both in giving precision and completeness to his knowledge of the particular subject, and in the mental discipline which is incidental to the process employed in its acquisition. It must be evident that such examinations will be more useful if conducted by the lecturer himself, than if left to the performance of a third party, especially if the latter did not himself hear and enter into the spirit of the lectures. Your committee perceive much to condemn and little to approve in a system which throws the whole responsibility of the application of this important instrumentality of instruction, upon a class of "Grinders," the extent of whose popularity is measured by the success with which they prepare a pupil to pass his examination with the minimum expenditure of time and labor, and, consequently, with the smallest amount of actual attainments.

The feasibility and the value of the system which is here recommended, have been tested in the medical department of the University of Virginia by an experience of a quarter of a century. In this institution the term of medical lectures is of the same length as the academic session, namely, *nine months;* and never are more

than three lectures delivered on any one day. Each lecturer, however, occupies an hour and a half for lecture and recitation, the latter exercise consuming about one-third, or between a third and a half, of the whole time. The class of medical students is about one hundred and twenty-five in number. Of these not more than twelve or fifteen, often not so many, recite at the same time; and yet there is not the slightest ground for believing that the average dividend or benefit to each student is less now than it was ten years ago, when the number did not exceed forty or fifty. We learn that this system is in successful operation in the medical school of Winchester, Virginia, and in the medical department of the University of Michigan. An exposition of some of the peculiar features of the last named institution, as contained in the report of Dr. Pitcher, read at the last annual meeting of the Association, appears to have met with the unqualified approbation of the members then present. Let it be observed that most of those peculiar advantages are incidental to the long term system, and to that alone.

It will doubtless be considered a serious objection to the proposed reform, that, inasmuch as the more trifling extension of the term from four to six months, has not been generally accepted, there can be but little hope that a more radical change in the same direction will meet with favor. The committee are not unmindful of the difficulties which are inseparable from every attempt to make sudden and extensive changes in any system which is of long standing, and the perpetuation of which is supported by manifold real or imaginary interests. But, on the other hand, they do not believe that the difficulty of procuring the adoption of this reform in many of the centers of medical education, will prove to be insuperable. They do not suppose that more than a very few of the existing medical colleges will adopt a system so radically different from that in connexion with which they have enjoyed, and continue to enjoy, a large measure of public patronage; but they do believe that new institutions, the incorporation of which, by legislative authority, the profession is utterly powerless to control, will be induced to make an experiment, the success of which, as regards the thoroughness of the instruction given to the pupil, cannot be doubtful. At all events, the committee feel it to be their duty to recommend such a system of medical education as, in their opinion, may comport with the existing state of the medical sciences, and satisfy the reasonable demand of the profession, rather than to speculate upon the probabilities of its adop-

tion by the medical schools of the Union. If it is true that the profession has ceased to be an educated class, and no longer occupies that elevated position in public confidence which was once accorded to it, we conceive it to be more important to indicate the probable sources of this deplorable degradation, and the means of real and effectual reform, than to inquire what the schools are willing to do, in an emergency which they have been largely instrumental in producing. We hasten to add, that for the attainment of the advantages of that feature of the proposed reform which consists in the extension of the term of lectures, we do not consider it essential that it should be universally adopted. We shall presently express our views with reference to the means by which a higher grade of general and professional attainments shall be rendered indispensable for him who seeks an admission into the ranks of the profession. If this be secured, it will be a matter of comparative indifference by what means the result may have been accomplished in any given case. For that class of students who reside in our cities, and enjoy the advantages of private instruction by competent and zealous teachers, possessing all the necessary appliances for practical illustrations, a shorter course of public lectures may not only be sufficient, but in some instances preferable. But as respects that far more numerous class of students who come from the rural districts, the case is very different. Many of these pass the interval of eight months, between the end of the first course and the commencement of the second, in desultory reading, and without the benefit of suitable instruction or guidance. This course cannot be otherwise than detrimental; and, for the benefit of all who pursue it, an extension of the term is urgently needed. The committee would therefore suggest the expediency of some action on the part of the Association, by which encouragement will be held out to such schools as may be willing to make trial of a reformatory plan, the general features of which are as follows: 1. The extension of the term to eight months, with not more than four lectures per diem at any period of the course, and not more than three during the dissecting season. 2. The exclusive assignment to such schools of the whole ground work of elementary medical education, and the subsequent transferrence of the advanced pupils to schools, whether private or public, in which they should be taught to make practical application of the principles which they had previously acquired.

The increase of expense necessarily dependent upon the acqui-

sition of a medical education under such a system, constitutes a real difficulty; but, after much reflection, the committee are of opinion that no adequate reform can be obtained without some additional pecuniary sacrifice as well as mental labor on the part of the student. If the Association possessed the means of compelling the schools to adopt this system, the committee would regard it as inexpedient to exercise such prerogative. It has been seen that very different views are entertained by the faculties of some of the most respectable institutions of our country. Their frank avowal and earnest defense of those opinions cannot fail to command our respect, how widely soever we may dissent from their conclusions. But let others who may be disposed to make trial of the proposed reform, be encouraged to do so; and then let the tree be judged by its fruits.

3. The omission, in the curriculum established by many of our medical colleges, of one or two important branches of knowledge, is an evil which, in the present state of the medical sciences, and in view of the relations of the medical profession to society, imperatively calls for redress. Your committee are fully aware of the arguments which may be advanced against large additions to a curriculum already disproportionate to the short term allotted to the course. They would not, therefore, for the present, recommend any considerable additions. They would, however, insist upon the urgent necessity of embracing in the regular curriculum the study of physiology, and of medical jurisprudence, both of which are omitted in many of the schools. In a large proportion of these institutions, physiology is assigned to the professor of special anatomy, whose other duties preclude him from the possibility of doing more than merely stating the office of each organ, without inquiring into the conditions of its action, and consequently without elucidating the general laws of vitality. The gradations of organization throughout the animal series, furnishing, as they do, the data upon which most of the inductions of human physiology are based, and therefore felicitously characterized, by the great Cuvier, as so many experiments made for us by nature herself, should be understood by every student of medicine. The study of the outlines of comparative anatomy, as a part of a complete course of instruction in physiology, has an importance which can scarcely be overrated. It may be urged that while this position holds good with reference to those who are to undergo a process of training for the prosecution of ori-

ginal researches, it will suffice for the great body of students, whose object it is to prepare themselves to practice the healing art with credit and success, to adopt, upon the authority of others, the general principles of physiological science. But this is just the kind of instruction which we hold to be not only valueless, but detrimental.

It is the unanimous testimony of all competent teachers, that they experience much difficulty in placing their students in a position to appreciate an abstract principle or general truth, in any other way than by leading them successively along the several paths which converge to that central point. A pupil may commit, *memoriter*, the words in which a general truth is enunciated; but he not only finds it difficult to retain them in his memory, but he derives little benefit even if that difficulty be overcome. The acquisition does not truly become a part of his mental furniture, and is not appreciated as the living truth. But let him be made to apprehend the reality and the significance of the particular facts upon which the induction is based, and to form the conclusion by the spontaneous exercise of his power of generalization, and the truth will strike upon his mind with all the vividness of a personal experience, while the intellect will be invigorated and rendered more acute.

All who have had an opportunity of observing the discreditable figure made by medical witnesses who are subjected, by ingenious barristers, to a searching cross-examination before courts of justice, need no other proof of the desirableness of ample and exact instruction in the principles and facts of medical jurisprudence, as a part of the collegiate training of medical students. Setting aside, then, the higher and more binding motives connected with the conscientious convictions of duty, the sense of disgrace attached to scenes in which, by a public exhibition of deplorable ignorance on the part of a witness, not only he, but the profession to which he belongs, is exposed to ridicule and contempt, should suffice to induce the members of this Association, collectively as well as individually, to use all legitimate means to reform this evil.

In many instances, an attempt to enlighten the court and to subserve the purposes of justice, most signally and to the great surprise of the bench, the bar and the spectators, fails. Such failures sometimes occur to medical men accredited by the community in which they live as men of intelligence, learning and worth, and arise from preposterous attempts to give, upon the spur of the moment, ample and satisfactory information in regard to points

the proper elucidation of which would require a careful examination of authorities, and perhaps an exact numerical analysis of well-authenticated cases, the records of which are scattered through a number of volumes. Again, it not unfrequently happens, that the problem submitted to the witness for immediate solution, is one which is not only without a parallel in his own experience, but has not been solved by the observations of others. In such an emergency, the strictly conscientious witness will avow his ignorance; and if the question be one susceptible of elucidation by experiments, or by direct observation, and he be an expert, he will demand time for making such investigations. But the Association needs not to be informed with what readiness the half-educated physician yields to the temptation of making a hasty application of his knowledge, and ventures to express his crude opinions with the positiveness which he finds to be expected of him, and which the counsel, perhaps quite as anxious to support their cause as to elicit truth, seek by every means to provoke. The opposing counsel arrays against such opinions, the equally dogmatic assertions of a rival practitioner, until both are discredited, and reproach and contempt are brought upon the members of the profession as a class. The first and most effectual remedy for such disgraceful occurrences, is to impress upon the minds and consciences of medical men, the folly and guilt of expressing positive and hastily formed opinions upon doubtful or obscure analogies, and the expediency and duty of confessing an inability to satisfy the desire of the court in all cases in which an authoritative decision is not warranted by their own experience, or by the unquestioned experience of reliable observers. But it is undeniable that the occasions for making such avowals will occur far less frequently to the man who is well instructed in the principles of medical jurisprudence, than to one who, though equally well versed in the other departments of professional learning, has paid no attention to that study as an independent branch of medical science. For, although it is true that a very large proportion of the questions arising in medico-legal inquiries are connected with facts of anatomy, physiology, hygiene, pathology and obstetrics, yet these facts require a very different application from that which is made of them by the practicing physician, in the ordinary exercise of his professional calling. Your committee, therefore, regard it as essential to the welfare of society, and to the reputable standing of the profession, that medical graduates should be required to exhibit satisfactory

proof of their acquaintance with the leading facts and principles of forensic medicine, and that they should be impressed, by the precepts of their teachers, and by the example of their seniors in the profession, with a due sense of the solemn responsibilities of a medical witness.

4. The profession objects, with much reason, to the entire neglect or very imperfect use of clinical instruction in many of the medical colleges of the United States. As respects some of these institutions, the defect is irremedial, owing to their location in villages too small to furnish subjects for hospital practice. And in some of our larger cities, the seats of the oldest medical colleges in the Union, the hospitals are either entirely inaccessible to the student, or are opened to him under such restrictions as to make it a privilege of little value. In such cases, the schools have been driven to the necessity of finding a substitute in what are termed "college clinics." But even where no other impediment hinders the students from visiting the hospitals daily, those who attend six lectures each day in the college, and are also engaged in the study of practical anatomy in the dissecting room, can find little time or disposition for such clinical observations as will be of any value to them. Hence, it is only the small minority who remain in the city during the summer and autumn, that truly derive any profit from the facilities for clinical observation which the city hospitals may afford.

We have almost invariably found that, among even this class of students, only those who have previously graduated can be induced to read, in connection with their clinical observations, the class of books which constitute the elucidators of disease. The undergraduates feel themselves constrained, by the prospect of a coming examination, to confine their reading mainly to the elementary textbooks. In view of such facts, your committee express their hearty concurrence in the position taken by Dr. Pitcher, in his report, and indorsed by the vote of the Association, "that a familiar knowledge of the elements of medical science should precede clinical instruction." This course is practically adopted by a large number of the better class of medical students, who pursue clinical studies for a period of from one to three years *after graduation*, either in the hospitals of our own cities, or partly here and partly in Europe. Having dissolved their connection with the schools, in which elementary instruction alone can be adequately given, and in which the second-course students pursue precisely the same studies as those who are

attending lectures for the first time, they properly lay aside elementary books, and substitute, in addition to systematic "clinical guides," the published records of the clinical observations of those careful and reliable observers who have done so much towards giving precision and certainty to modern pathological doctrines, by authenticating the data upon which they are based, and clearing away the immense rubbish of "false facts" which, as much as aught else, had retarded the progress of medicine as a positive science. By the aid of such accurate clinical reports, carefully studied in connection with the actual observation of cases at the bed-side, the intelligent and earnest pupil may add to his own personal experience that of all the eminent clinical reporters whose works he may read. The descriptions there given of the daily progress of the symptoms, and the effects of remedies, can scarcely be appreciated without the aid derived from an examination of cases of the actual disease; but with this aid, that familiar law of our mental organization in accordance with which vividness is imparted to our conceptions by being associated with sensible objects, is brought into operation, and the reported cases rise before the mental vision with the clearness and distinctness of reality.

In immediate connection with this topic, the committee would again invite the attention of the Association to the importance of other branches of medical science which may be studied practically. We may specify practical chemistry, the use of the microscope as an instrument of research, and as furnishing data upon which a differential diagnosis may be based, practical midwifery, and operative surgery. It is a fact which may well elicit our mutual congratulation, that efficient instrumentalities for thorough practical instruction in all these branches, are being brought into operation in various parts of the Union. The advertisement of "the New York preparatory school of medicine" is now before us. Such associations, if they fulfill their promise, will deserve the encouragement of the profession. We think, however, that the use of the term "preparatory," may mislead the public, to the detriment, perhaps, of these auxiliary schools. All instruction received by a pupil is preparatory to the great business of life; but in no sense can such instruction as these schools propose to give, be considered preparatory for that of the incorporated schools. The latter is elementary, and should precede the practical. We shall presently consider, under another head, the objection that may be raised on the score of the difficulty of

inducing many students to apply for such instruction, after having received the diploma which entitles them to practice medicine and surgery.

5. This last remark suggests the consideration of the most flagrant and mischievous of all the defects of American medical schools, and the correction of which is essential to the attainment of much or any benefit from any other projected measure of reform. We refer to the disgracefully low standard of professional knowledge and general mental culture exacted of the candidates for the degree of doctor of medicine. There is, we fear, no reason to believe that any degree of reformation in respect to this evil has hitherto resulted from the reform agitation which has occupied so large a share of the attention of the profession during the last eight years. On the contrary, it is believed that in some of the most respectable colleges of the country which have manifested a disposition to adopt several of the measures of reform recommended by the Association, a sort of compensation for the new exactions has been allowed to the unaspiring student, by lessening the rigor of the examination for graduation. It is in view of such facts, that we desire to fix the attention of all our fellow members of the Association upon the importance of greatly elevating the standard of attainments which should be exacted of candidates for graduation, before any practical benefit can be expected from the other projected reforms which have repeatedly been sanctioned by our votes.

The evil in question having originated, in a great measure, in the active competition of rival schools, some have contended that it can only be remedied by diminishing the number of these institutions. If this were so, we should be obliged to abandon all hope of relief, and submit to a perpetuity of disgrace; for those institutions now possess chartered rights, which it cannot be expected that they will relinquish. Nor is it probable that more good than harm would ensue from a diminution of the number of the schools. If students could obtain admission into the ranks of the profession *only* after giving such satisfactory proof of attainments and mental discipline as would test the thoroughness and the judicious character of the instruction they had received, the rivalry between the separate schools would consist in efforts to elevate the standard of medical education by enlarging the curriculum with the progressive advancement of the medical sciences, and by perfecting the means of illustration and exact demonstration. The only available remedy, then,

in the opinion of the committee, is the establishment of boards of examination, distinct from the faculties of the schools. It does not suffice to have a committee of the State society present at an examination conducted by the faculty of the school. The desideratum is to have a uniform standard throughout the Union, or throughout the limits of each of those States in which such a board may be appointed.

This scheme, of a divorce between the teaching and the licensing powers, meets with no favor from many of the most zealous friends of medical reform, some of whom found their objections to it upon the presumed impossibility of securing the necessary action of the State legislatures, while others insist upon the inexpediency of committing the affairs of the profession to the control of partisan politicians. These difficulties need not, we think, stand in the way of effecting the desired object. In those States in which a diploma from a regular College, or a license from the State Society, is required to legalize the practice of medicine, as, for example, in New Jersey, we presume that there will be little or no difficulty in assigning the matter altogether to the Society. In those States, on the other hand, in which there are no laws regulating the practice of medicine, and where, consequently, the collegiate diploma has no legal character, its value being solely due to the popular appreciation of it as a certificate of professional attainments from those who are supposed to know the character of the graduate, and are presumed to give truthful testimony, it seems reasonable to believe that the united voice of the profession would be as potent in exacting the possession of a license from an extra-collegiate board of examiners, duly appointed in conformity with a general plan sanctioned by the American Medical Association, and adopted in all the States of the Union, as it now is in inducing young men to procure a collegiate diploma, which is not necessary to legalize the practice of their vocation. At first, no doubt, many would shrink from undergoing a test the result of which might be doubtful; and such persons would endeavor to magnify the value of their collegiate diploma, and to underrate the importance of an additional license; but all the better class would cheerfully present themselves before the licentiate board, and others would soon find it to be their interest to do the same. Moreover, the reflected influence upon the schools, in inducing them to elevate their standard lest they should be discredited by the wholesale rejection of their graduates by the licentiate boards, would be of

immense service, although a majority or a large proportion of their graduates might refuse to undergo the additional test. This is precisely the way in which we expect the plan to work most favorably for the cause of medical education.

After many years of anxious reflection upon this subject, the committee feel a strengthened conviction that the scheme is feasible, and that, at the least, it deserves trial. The members of the medical profession in Virginia have, by a large majority of their representatives, in a State convention held in Richmond, in December, 1846, and in several successive annual meetings of the State Society, expressed their conviction of the necessity and the practicability of this measure. The faculties of the medical schools of the State have repeatedly and publicly avowed their acquiescence. Honest differences of opinion exist in respect to the propriety of several of the measures of reform recommended by the Association. Let all unite in carrying out this scheme, and all other measures will settle themselves. The committee are happy to perceive that this subject was brought to the notice of the Association at the last annual meeting, by the retiring president, Dr. Wellford, in an able and eloquent valedictory address. His views appear to have been received with favor, if we may judge from the passage of a resolution to refer this subject to a special committee of which he should be the chairman. We have been informed by Dr. Wellford that he will not present his report until the meeting of next year; and this fact seemed to justify a more extended notice of the subject by this committee, than might, otherwise, have been admissible. We look with confidence to the forthcoming report from that gentleman, for a convincing demonstration of the advantages of the proposed reform, and for the suggestion of a practical mode of insuring its efficient operation.

To illustrate the position assumed by the committee, that, provided the examinations which are intended to test the fitness of the candidate for admission into the ranks of the profession be sufficiently rigid, great latitude of discretion may be safely allowed to the schools in regard to other measures of reform, they would again make a brief allusion to the experience of the medical department of the University of Virginia. It was a favorite policy of Mr. Jefferson, the founder, and until his death the rector of the institution, to make actual qualifications, as tested by numerous and rigid examinations, the only requirement for the attainment of collegiate honors. His aim was to *raise*, and not to lower, the standard of education in all

the departments of university instruction; and, with this end in view, to require the most positive and unmistakable evidences of attainments, rather than a specific number of courses of lectures, as a condition of graduation. Every precaution is taken to prevent the possibility of the abuse of this system. The qualifications of the candidates for graduation are estimated by reference to the results of the daily oral examinations in all the classes, of which a numerical record is kept, and especially by reference to the results of "seven written examinations for graduation," held near the close of the session, and occupying each the greater part of the day. These examinations are conducted by a committee of the faculty; and the students, besides being under the view of this committee during the whole time, are required to certify upon their honor that they have not received assistance of any kind in writing their answers. The rigor of these examinations and the high degree of the standard exacted from the graduates, may be inferred from the fact that, while all the matriculates are permitted to become candidates, and about five-sixths do usually announce themselves as such at the commencement of the session, the number of actual graduates is far smaller than in any other American school, being between a sixth and a fifth of the class. Another result of the system, and one which might not have been so certainly expected, is the irrepressible eagerness manifested by the graduates, for a grade of clinical instruction, to be enjoyed elsewhere, which in its extent and accuracy shall conform with the thorough elementary instruction which they have just completed. Almost immediately after the close of the session at the end of June, a majority of these graduates reunite in the large cities to prosecute clinical studies under the guidance of approved practical instructors; and both there and elsewhere they are noted for the zeal with which they seek appointments as resident pupils in hospitals, their career in respect to this matter illustrating the truth of the position sustained in Dr. Pitcher's report, "that a familiar knowledge of the elements of medical science should precede clinical instruction."

6. In accordance with what appeared to be the intention of the Association in assigning the consideration of the subject of medical education to a special committee each year, your committee for the present year have considered themselves as virtually instructed to direct their attention mainly to those defects which seemed to be specially inherent in the "American system," and to the remedial measures that have been suggested from time to time. In the

inquiry into these subjects, regard has been had exclusively, or almost exclusively, to but one of the offices of a place of professional education, that, namely, of imparting an ample store of useful knowledge, both of particular facts and of general truths and principles. Another distinct and yet more important object in any scheme of education, is to fit the pupil for the practical duties of life, by the discipline of those faculties which are to constitute the instruments of his daily operations in the ordinary exercise of his responsible calling. Much may be done toward the attainment of this discipline, as already remarked, by a happy combination of the system of instruction by lectures, with a judicious scheme of daily examinations. But the most important agent in this work is the clinical teacher, under whose superintendence each pupil should be required to observe cases; keep a record of the observed phenomena; announce his diagnosis and the grounds upon which it is based; indicate the course of treatment which might appear to be applicable upon a rational consideration of the known pathology of the disease, or which an enlightened and reliable empiricism had proved to be efficacious in similar cases; and, finally, to analyze a large number of cases, whether perceived by himself or recorded by trustworthy observers, with a view of enlarging his acquaintance with those general truths that might escape notice in the contemplation of isolated cases. The first crude performances of the tyro should be kindly but faithfully criticised, models of excellence should be held up before him for his study, and such incentives to earnest and patient labor should be employed as might appear to promise benefit. All this is, indeed, so obvious, as to have become trite; and if the examinations which give a title of admission into the ranks of the profession were so conducted as to test the student's skill in practical diagnosis, and the extent of his resources, in the management of cases of a certain degree of obscurity, as dependent upon his capacity to deduce conclusions from analogy when more positive data can not be obtained, such instruction would undoubtedly be sought by every student, prior to his appearance before the examining board. Nor would adequate facilities for obtaining such instruction, be long wanting. The demand would at once create the supply. The question to which, in this connection, your committee would desire to invite the attention of the members of the profession, and especially of those who are engaged in the business of medical teaching, has reference to the practicability and expediency of so

conducting the process of the preliminary training of candidates for the medical profession as to qualify them for this work of practical medical reasoning. They are impelled to offer a few remarks upon this subject, by a conviction that certain able and popular writers on the philosophy of medical science, have fallen short of presenting the entire truth, and, in their almost exclusive attention to one aspect of the subject, have disregarded or underrated the value of an important instrument of research in the investigation of medical truths.

Unquestionably one great source, perhaps the main source, of error in medical reasoning lies in the slenderness or inaccuracy of the data upon which premature conclusions are founded. To correct this defect, which, of course, would vitiate all reasoning based upon such premises, Louis and others have systematized rules for the exact and faithful performance of that department of labor in medical inquiries, which consists in *verifying* and *counting* facts. Nor can too much praise be accorded to those earnest and self-denying votaries of science, for the zeal and perseverance with which, undeterred by misrepresentation and ridicule, they have pursued their own arduous labors, and for their efforts to enlist the energies of youthful talent in carrying on the good work. But some of these distinguished men have occasionally so expressed themselves as to imply that observation forms the whole work of scientific investigation, disregarding or disparaging, by implication, if not in direct terms, that branch of the problem which consists in the proper *interpretation* of the facts, the occurrence of which has been substantiated by the results of the numerical analysis. Counting and classifying the observed phenomena may suffice for the solution of a certain class of problems, such as the following: a disease being selected for investigation, to determine, by the numerical analysis of a sufficient number of cases, the relative frequency of various pathological changes and symptoms; or to determine the absolute or relative value of a particular remedy, or of a special mode of treatment, by recording the results of such treatment, in a large number of cases, as compared with those which have been substantiated in connection with other methods of treatment. Louis was warranted in affirming, in reply to objectors, that if a sufficient number of cases be taken, the differences between individual cases in one group will be balanced by equal differences in another group. Such groups are therefore legitimately comparable, and from such comparison general conclusions may be safely deduced. The common sense of mankind acknowl-

edges this. It is a simple case of induction, which all physicians practice and rely upon, even those who decry the numerical process, the only difference being that some practice it carelessly, while others, by counting, insure exactness.

But, on the other hand, there are problems the solution of which the medical practitioner is obliged to attempt, whether it be willingly or unwillingly. He must solve them, to the best of his ability. What avails the numerical method when a novel phenomenon or an anomalous group of phenomena is presented for immediate interpretation? It will not, we presume, be denied that, under such circumstances—and they are of almost daily occurrence in the experience of every practitioner of medicine—the physician must be guided, as far as possible, by the light of analogy, the application of which to any given case may involve the use of both the inductive and the deductive processes of mind. Mr. Macaulay has, indeed, undertaken to disparage the value of the rules laid down by Lord Bacon in his celebrated analysis of the inductive process, by supposing a case in which a man rigidly observing these rules, as he erroneously contends, might yet seem to prove that the cause of the prevalence of Jacobinism in England was the bearing of *three* names, and thus arrive at a conclusion monstrously absurd. He proceeds to say that the only difference between such an induction and a legitimate one, "is not in the *kind* of instances, but the *number* of instances; that is to say, that the difference is not in that part of the process for which Bacon has given precise rules, but in a circumstance for which no precise rule can possibly be given." The complete fallacy of this caricature of the inductive philosophy has been well exposed by the author* of a "Discourse on the Baconian Philosophy," who properly insists that it is precisely the *kind* and not the *number* of instances which constitutes the difference between the two cases put by Mr. Macaulay. "For if the instances of the three names had been as numerous as the whole Jacobin party, though it would have been a marvelous coincidence, yet no man in his senses would have believed that the bearing three names was the cause of the prevalence of Jacobinism, and simply because the instances are not of the *kind* from which an inductive inference can be drawn, they not being *kindred* facts conjoined by a law of nature." Invariableness of the succession of two phenomena, such, for exam-

*Samuel Tyler, of the Maryland Bar.

ple, as night and day, does not always suffice to establish the relation of cause and effect; while in other cases we may often rest with perfect conviction upon the existence of this relation between two events the juxtaposition of which we may have observed in a single case. In such a case, the assigned cause is recognized not merely as a "*vera causa*," but as one which *on the grounds of analogy* is known to be capable of producing the observed effect. "Whenever, therefore, any phenomenon presents itself for explanation, we naturally seek, in the first instance, to refer it to some one or other of those real causes which experience has shown to exist, and to be efficacious in producing similar phenomena. In this attempt our probability of success will, of course, mainly depend, first, on the number and variety of causes which experience has placed at our disposal; secondly, *on our habit of applying them to the explanation of natural phenomena;* and, thirdly, on the number of analogous phenomena we can collect, which have either been explained, or which admit of explanation, by some one or other of those causes, and the closeness of their analogy with that in question. Here, then, we see the great importance of possessing a stock of analogous instances or phenomena which class themselves with that under consideration, the explanation of one among which may naturally be expected to lead to that of all the rest. If the analogy of two phenomena be very close and striking, while at the same time, the cause of one is very obvious, it becomes scarcely possible to refuse to admit the action of an analogous cause in the other, though not so obvious in itself."* It is clear, then, not only that the possesion of a large stock of analogous instances will augment our resources in undertaking the task of explaining natural phenomena, but that very "precise rules" may be given to teach us how to interpret nature as well as how to observe her operations. The value of Bacon's analysis of the inductive process, and of the rules laid down by that extraordinary man, has been too fully attested by the experience of all the succesful votaries of positive science, to be discredited by the rhetorical flourishes of the popular essayist and historian.

An American expounder† of the philosophy of medical science would seem, if the phraseology which he occasionally employs be literally

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* "Discourses on the Study of Natural Philosophy," by Sir F. J. W. Herschell.

† E. Bartlett. "Essay on the Philosophy of Medical Science."

interpreted, to repudiate all "reasoning" as an aid in the discovery of scientific truths. And yet, after all, the difference between him and the accredited expositors of the principles of positive philosophy amounts to a mere dispute about words. For after denying, as well he might, that the object of science is to take facts as materials, and build up something out of these facts "by what is called inductive reasoning," which, by the way, is by no means a correct method of stating the position he intends to overthrow, he adds that "the science is in the facts and their *relationships* arranged and classified, and nothing else."

Well, this may be admitted, and it is quite enough. The discovery of the "*relationships*" is exactly what most persons mean by a process of inductive reasoning. It is quite true that the "relationships" are not constructed out of the facts, and no man in his senses ever supposed that they were. But it is equally true that they are not discovered by sensible observation *alone*, as particular facts may be discovered. They are not seen nor made palpable to the organs of touch, but are *inferred* when the events which they connect are observed in a certain order of succession. When the phenomenon is simple, the juxtaposition of its elements may be so close as to be easily substantiated, and the idea of the "relationship" arises immediately to the mind. But in the more complicated cases which daily present themselves to the practical physician, we are constrained to avail ourselves of the light that may be derived from our experience in cases more or less analogous. It is in vain to attempt to extinguish the light which the human mind instinctively kindles for itself, when constrained to form some conclusion in case of doubt and obscurity. Analogy is, we may admit, "a fertile source of error" and "the fruitful parent of fallacious conclusions," when allowed to usurp the office of more reliable data, or to have more weight than may attach to the grounds of a provisional conclusion to be verified or corrected by future observations. In reply to all this, we shall probably be told that a tendency to theorize is the bane of medical investigations, and needs no stimulus. We do not propose a stimulus, but a corrective of the natural habit of premature and unwarranted generalization upon remote and doubtful analogies, by the contemplation of cases in which the legitimate use of the argument by analogy has led to useful discoveries, and by the earnest and thoughtful study of such works as Herschell's "Discourse on the Study of Natural Philosophy," Mills' "System of Logic," Whew-

ell's "Philosophy of the Inductive Sciences," Tyler's "Discourse on the Baconian Philosophy," and the great "Novum Oganon" itself.

Your committee beg leave, in conclusion, to submit to your consideration the following resolutions, as a summary of the principal views embodied in the foregoing report:

1. *Resolved*, That the views and recommendations heretofore expressed by this Association, respecting the importance of establishing a uniform standard of preliminary education, of extending the term of lectures, and especially of greatly elevating the standard of professional attainments requisite to graduation, be hereby re-affirmed.

2. *Resolved*, That this Association approves and recommends the practice of daily examinations by each professor, as essential for securing "that active, practical discipline" of the mind which is one of the most important ends of collegiate instruction; and believes, not only that such a system might be easily put into operation, under an extension of the term of lectures, but that the whole ground work of elementary medical instruction might be most advantageously assigned to the schools which may adopt that system, as a substitute for the very faulty one of private office instruction now in common use.

3. *Resolved*, That this Association cordially approves of the establishment of "private schools" duly organized for giving that species of instruction which consists "in demonstrations" and other practical exercises "on the part of the student, instead of the instructor, but still under his direction and superintendence," embracing the whole circle of clinical observation and practice, the use of the microscope, chemical manipulations, and the performance of surgical operations on the dead body; and would earnestly recommend such institutions to the patronage of those graduates who did not enjoy similar advantages during the period of their collegiate pupilage.

4. *Resolved*, That those medical colleges whose curriculum does not now include full courses of lectures on physiology and medical jurisprudence, be earnestly invited to make immediate provision for supplying the deficiency, and to require the professor of physiology to make an exposition of the outlines of comparative anatomy, to such extent, at least, as may necessary to enable the student to appreciate the force of the evidence upon which the modern doctrines of physiology mainly rest.

5. *Resolved,* That to insure the efficient and beneficial operation of the proposed measures of reform, the association considers it essential that some uniform system of examining candidates for admission into the ranks of the medical profession, *in addition to the collegiate examinations for degrees,* should be adopted in all the States of the Union.

6. *Resolved,* That the Association regards as auspicious omens of future progress, the already improved character of our medical literature, and the evidences of an increasing desire, on the part of a respectable number of medical students, for a higher grade of professional education, as exhibited in the patronage extended to extra collegiate organizations for practical teaching; and that, in view of such encouraging signs, it cherishes an abiding conviction that more thorough and general reforms will be ultimately, though gradually, accomplished.*

J. L. Cabell, M. D., *Chairman.*

Art. II.—*Discovery of Viviparous Fish in Louisiana.*

New Orleans, Nov. 1, 1854.

"What have we here? A fish—a strange fish."—*The Tempest.*

In the month of October, 1854, through the politeness of J. C. B. Harvey, M. D., of Tchoupitoulas Street, I received a small osseous fish, caught in the New Orleans canal, which connects the city with Lake Pontchartrain. This fish had been placed in a basket containing crabs, one of which wounded it slightly in the abdomen near the cloaca, thereby exposing several fœtal fish enveloped in a delicate membrane. The parent fish, which had been rudely thrust into a narrow-mouthed phial of spirits, retains, after immersion for two weeks, the original *rigor mortis,* and the same remark applies to the fœtuses, though they have been soaked in water; some of them have been forcibly straightened. On the 17th of October, in the presence of, and assisted by Drs. J. Hale and M. M. Dowler, I enlarged the wound, and proceeded to dissect a somewhat globular

*Dr. Cabell not being in attendance, his report was not read before the Association, and therefore no action was had upon these resolutions.

E. S. Lemoine, *Secretary.*

mass of fœtuses bounded by the intestines before, and separated from them by an indescribably thin, diaphanous membrane; this mass was further bounded above by the spine and ribs, below and behind by the posterior inferior abdominal walls, bulging backward of the anal orifice and fin. The exterior envelope of this oblong globe consisted of a very thin, pellucid, extremely delicate and apparently laminated and flocculent membrane, like the amnion of the human embryo in the early state; it did not form a simple sack, but consisted of many duplications like the arachnoidal reflections among the sinuosities and convolutions of the human brain, sending its prolongations as the hyaloid membrame does, through the vitreous mass of the eye.

The uterine membrane (ovisac it may not be termed) contained twenty-two fishes. It is probable that the inner surface of the uterine membrane sent forth a still more delicate membrane, which enveloped each fish after the manner that the peritoneum envelops the abdominal viscera; but the parent fish, and still more its enclosed organs, were too minute to admit of full demonstration during a necessarily hurried examination; moreover, the wish not to mutilate the parent fish very much prevented a fuller dissection of the fœtal mass *in situ*.

Each fœtal fish was doubled laterally, sometimes to the right, sometimes to the left, into the globular form, the caudal fin which is inclined to the lancet shape, though blunter, overlapped one eye and one side of the mouth; each fish *in situ*, and even after forcible extraction from its bed, was infolded in a sack; some were drawn out united by pedicles to a common stem, somewhat like an umbilical cord.

These fœtal fishes presented a perfect example of close packing. A perceptible force was required to dislodge them from their beds. The concavity left by their extraction appeared to be lined with a smooth, black, peritoneal membrane.

The intestines, which were very minute, were crowded forward by the rounded mass of fœtuses which occupied the greater portion of the abdominal cavity. No ova were discovered.

The maternal fish not being much mutilated, is reserved for a more detailed technical description, which my leisure and the limits of this Journal will not admit of at present.

Without attempting fully to describe even the dermal skeleton, I may observe that this tiny fish is a most symmetrical one. Its

minuteness may be imagined when I state that, after the removal of the inclosed fœtuses, it weighed only seven grains, though not disembowelled. Thorough desiccation would probably reduce its weight about half or more. The fish exposed for two hours in the shade, on a damp day, was but slightly desiccated. It was weighed by Mr. Macpherson, apothecary, in my presence; but fearing a mistake, I had it weighed a second time, with the same result. If each fœtus should weigh but one grain, the aggregate would be more than three times greater than that of the mother!

Measurements in inches: Length, including the caudal fin, 2 inches; greatest circumference $1\frac{3}{4}$; width vertically $\frac{1}{4}$; length of thoracic fin $\frac{1}{4}$; the caudal fin does not expand from its base or proximal end, but terminates ovally, its length $\frac{1}{2}$; the anal but little expanded $\frac{1}{4}$; the ventral is too minute for convenient measurement, being almost invisible without a lens; the dorsal, which is single, has but a slight vertical width, arising from a base $\frac{1}{4}$ of an inch, nearly opposite, though a little forward of the anal.

The teeth are advanced, nearly ranging with the lips, being very numerous, close and small, though scarcely discernible without a magnifying glass. Lips thin, the under one slightly projecting; angles of the mouth not depressed; eyes medium size; head flattened at the frontal bone; operculum much expanded. The branchiæ largely developed in three great arches, densely fringed with thick tufts, the outer and inner rows inclining to the central, having also one, perhaps more rows behind, which are shorter.

The predominant hue of this fish is a tawny or fawn color; the opercula silvery; head metalic gray; muzzle blackish, slightly projecting.

There are six rows of rather quadrangular black spots, more particularly marked in the posterior half of the body, averaging twenty-five spots for each row. These black spots resting on a tawny ground, leaving intervals something larger than themselves, give a picturesque appearance, forming stripes of alternating hues, the three upper of which slightly curve corresponding to the arching back; but each becomes straighter, the fourth and fifth being nearly straight; the sixth or lower row follows the abdominal curve, and disappears at the anal fin; the other five rows gradually converge without coalescing at the origin of the caudal fin. At the origin of this fin the spots are displaced out of line. By this arrangement the six rows of alternating black and tawny leave in the longitudinal

direction six other continuous tawny stripes, all of which, except the two interrupted ones lost at the anal fin, converge without mingling in the tail, all being about equal in length. The colors fade somewhat into a grayish yellow around the thoracic fins, which are nearly central between the dorsum and abdomen, being on a level with the eyes, and about one line from the opercula.

There are six or seven rows of scales. The spinous rays of the fins are about twenty-five caudal, twelve anal, fifteen dorsal, ten thoracic.

These fœtuses are half an inch long, all alike, exactly resembling the maternal form and proportion, with the following slight exceptions, namely: their bodies are more slender and compressed laterally; their heads are comparatively larger, and their eyes more prominent: their colors are less variegated, and paler; a still greater differenee appears about the middle of the abdomen, where there is attached to each fœtus a whitish, faintly yellowish, placental-like, irregularly formed mass of considerable size, having a broad base, being apparently implanted in or blended with the abdominal integument, possessing considerable strength, and constituting what may be termed the umbilical prominence; perhaps it may turn out upon further examination that this mass may be not placental, but an adherent mesenteric mass of convoluted membrane.

These fœtal fishes were probably sufficiently developed at the time of the parent's death to live independent of the mother.

It appears from the proceedings of the Academy of Natural Sciences of Philadelphia, for 1854, that Dr. Gibbons, of the Academy of Natural Sciences of San Francisco, "claims priority of description of viviparous fish," in behalf of the gold-shimmering waters of California, and consequently that state takes precedence over Louisiana. Agassiz, whose sounding (fishing) line has passed the living waters to the most ancient palæozoic rocks, says, in regard to the California viviparous fishes, that "a country which furnishes such novelties in our days, bids fair to enrich science with many other unexpected facts."—*N. O. Medical and Surgical Journal.*

B. Dowler, M. D.

Art. III. — *Female Doctors.*

All of us remember how profoundly, a few years ago, the female mind in this country was agitated by the Bloomer crusade. The cry went forth from the women of America to the women of England, calling upon them, as they valued their freedom — or, rather, their supremacy — to rebel against the yoke which they supposed to be typified in their petticoats; to revolutionize the time-honored but despotic millinery regulations: and to put on, as the symbol of their independence and of their equality with tyrant man, that garment of the nether limbs which it is considered indelicate to describe by name, but which hitherto had been wrongfully and despotically appropriated to the male sex. The philosophical and skillful Amazon, Mrs. Colonel Bloomer, who had assumed the conduct of this great campaign on behalf of the rights of women, had accurately fathomed the influence of dress upon the mind. The ingenious author of "Sartor Resartus" himself did not more fully appreciate the importance of external decorations as instruments for subjugating the intellect of mankind, than did the gallant Coloneless when she boldly unfurled before her down-trodden sisters, as the standard of revolt, that unmentionable garment which insolent men had oftentimes in ribald metaphor taunted them with surreptitiously wearing.

It is not our purpose to trace the succession of events by which the failure of the Bloomer costume was brought about. We still avow ourselves of the school of Thomas Carlyle. We still believe in the efficacy of dress as an agent in moral government. If the —— (our readers must apply the word we are not at liberty to mention) are still worn only by a few of the more daring and determined of their sex, we can only conclude that the petticoat which Mrs. Bloomer would discard and repudiate as unfitted to be the emblem of government, is, in reality, the garment that is the most in harmony with the mental qualities that Nature has implanted in the female sex. But contemporaneously with this bold assumption of masculine attire, there was at work, in the more advanced and disenthralled departments of the United States, a spirit of ambition more practical in its nature, that aimed at grasping not only the outward garments of man, but also usurping functions which the tyranny of custom had assigned to him. Female Colleges of all kinds were instituted. The inherent right of women

to academical distinctions—to enter upon the practice of the learned professions—was loudly proclaimed. Medicine, ever peculiarly exposed to the inroads of charlatanry, was the first profession to tempt the zeal and the ambition of the New Amazons. It had long been a subject of reproach that Medicine was degraded by the ignorant pretensions of "old women" of both sexes; why should it not be regenerated and honored by *young* women of powerful and instructed minds? Accordingly we have witnessed the revival of lady-professors of anatomy, physiology, medicine, surgery and mid-wifery; we have seen these lady-professors conferring the degree of Doctor of Medicine—we believe they pretermit the lower grade of Bachelor—upon the young ladies who have completed their studies; and, lastly, we have seen these lady-dubs, under their proper professional and academical appellations, driving about the enlightened towns of America in befitting broughams, expounding medical mysteries, giving advice and taking fees! One of these lady-doctors, more ambitious than her professional sisters, not satisfied with the state of science in America, had laudably resolved upon improving her learning and her skill, by visiting the European Schools of Medicine.

A Miss Doctor Blackwell, a graduate of Cleveland College, Ohio, having completed a course of study at the Royal Maternity Hospital, at Edinburgh, has applied to the Managers of the Royal Infirmary for permission to prosecute her studies in the female wards of that institution. It is supposed that her intention is ultimately to eclipse the home-bred lady-graduates of America, by returning to New York with the degree of Doctor of Medicine of the University of Edinburgh, and the Fellowship of the Royal College of Physicians of London. That a purpose so praiseworthy should be opposed by the refusal of the Managers of the Royal Infirmary to accede to the request of Miss Doctor Blackwell, we cannot but regret. In order that Miss Doctor Blackwell may not return to America, there to propagate the injurious reproach against our national character, that we know not how to encourage females in the pursuit of medical knowledge and collegiate honors, we beg leave respectfully to inform her and her sister graduates, that the Royal College of Surgeons in England is animated by a more enlightened and transatlantic liberality; and that the new order of Licentiates in Midwifery is open, by an act of Parliament, to "persons" of both sexes.—*London Lancet.*

ART. IV.—*Discussion at the Imperial Academy of Medicine on the Treatment of Displacements of the Uterus by Intra-uterine Pessaries.* Report of M. DEPAUL. Remarks of MM. VELPEAU, MALGAIGNE, CAZEAUX, AMUSSAT, RICORD, DUBOIS, JOBERT, &c.

This brilliant debate, which caused an extraordinary sensation in the Academy of Medicine, was originated by Dr. Broca, who detailed a case from his own practice, where death had followed the use of the uterine catheter. M. Cruveilhier related another fatal case, and declared his strong opposition to the use of uterine instruments. A committee was appointed by the Academy, and their report drawn up by M. Depaul, who, after entering at great length into the whole subject, condemned in most severe language the use of the intra-uterine pessaries and bougies. We will offer to our readers a very brief account of the cases, the report, and the discussion which ensued.

Cases of MM. Broca and Cruveilhier.

Broca's case was that of a woman aged 39, the mother of three children, who for a twelve-month had been suffering with suppressed menstruation, pains in the thighs, disorder of the digestion, obstinate constipation, and frequent calls to make water. On examination a very marked anteversion was detected, the cervix was enlarged and granular, with a glairy discharge from the os. On the 7th of October, the uterine sound was introduced; it reached to 6¼ centimetres. The uterus was brought into position and kept there for five minutes, without causing any pain. This operation was repeated on the 8th and 10th, the patient declaring herself better. On the 11th slight pain was felt on the introduction of the sound; the pain became more intense on the 12th, and was followed by fever, nausea, vomiting and constipation. The attacks of pain became more frequent, the pulse small, the abdomen timpanitic, and the patient died on the 23d. *The Autopsy* disclosed remarkable adhesions of the intestines to the abdominal parietes, and at about sixty centimetres above the ileo-cœcal valve *the intestine was adherent to the uterus*, greatly distended above and contracted below that point. Besides the old adhesions, there were recent ones not yet organized, in short, there were evidences of two attacks of peritonitis, one of the old and the other of recent date. The right Fallopian tube was dilated and attached by old adhesions to the uterus and rectum. It contained a considerable

quantity of pus. At the angle of the uterus near the insertion of tube was a collection of pus.

M. Broca believed that the introduction of the sound caused metritis and peritonitis, and that the recent, added to the old adhesion, had completed the intestinal obstruction. M. Valleix, however, contends that this contraction pre-existed before the introduction of the sound, and was not dependent on its use.

M. Cruveilhier's case was that of a young woman, aged 24, who had been married four years and was barren, which was attributed to a slight anteversion of the womb. She came up to Paris to place herself under the care of M. Valleix. The sound was introduced five times in one month, but could never be retained long, because of the sickness, distension of the abdomen, and severe pain which it produced. She returned home sick; M. Cruveilhier recognized metro-peritonitis. In a week after, the patient died.

M. Valleix considered the patient tubercular, and thought that she sunk under tubercular peritonitis.

M. Depaul's Report.

M. Depaul, in his report, which is of great length, undertakes to prove, that uterine affections are too often attributed to displacement, when they really arise from pathological conditions of that organ; that even in displacement, we possess a more rational method of treatment than the intra-uterine pessary; that the facts adduced to show the efficacy of these instruments are not satisfactory. Whereas, there are numerous facts proving that the most formidable affections, and even death itself, may be the consequence of their employment.

The reporter alludes to the two kind of instruments in use for uterine displacements—the uterine sound of Simpson & Kiwisch and the intra-uterine pessaries of various kinds, also known as Simpson & Kiwisch's, although the original idea has been claimed for Amussat and Velpeau. The sound which he declares had long been used by Racamier and Amussat, is considered of undoubted service in diagnosis, and may be useful in restoring the uterus to its normal position; the strictures of M. Depaul are mainly directed against the pessaries, although he considers the use of the sound as not without danger.

The next object of the report is to prove that uterine displacements do not produce the mischief which is attributed to them. More than

half of the sex are subjects of them; their influence has been greatly exaggerated, and the symptoms attributed to these deviations are the result of other pathological conditions. In pursuing this argument, the reporter gives to the 130 cases of M. Valleix, a severe analysis. He shows that these cases are inconclusive, and may be turned into evidence against the treatment they are intended to support. With regard to Dr. Simpson's practice, he was unable to give the results, as that gentleman, when applied to, communicated only assertions without proofs.

M. Depaul next proceeds to show the danger in the use of the intra-uterine pessary. Drs. Churchill, Ashwell and Graves are quoted, and Dr. Robert Lee's case, where the "impaling machine" was extracted from the uterus. Strong evidence is adduced to show the unfavorable estimation in which the practice is held by eminent obstetricians.

Many like objections are brought forward against the use of the uterine sound. According to Depaul, it is not often necessary in diagnosis, and is not exempt from serious danger. Cases of fatal peritonitis, abortion and death, are derived from the reports of Gueneau de Mussy, Huguier, Nonat and Valleix, and the report concludes by declaring that the efficacy of the mechanical treatment could not be proved; that the pessary gave rise to dangers of the most alarming kind, and that the sound, though of advantage in the diagnosis of certain affections, from the great risk attending its use, should be reserved for the exceptional cases which require it.

Discussion in the Academy.

M. Malgaigne, while admitting the zeal and talent of the reporter, regretted to find so much party spirit in it. He believed that in some cases, the intra-uterine pessary might be useful. He had often witnessed cases of descent of the uterus, where the use of the pessary had put a stop to all the symptoms. *The hypogastric belt*, also, by replacing the uterus, had often produced the same beneficial results. The important point was to establish a differential diagnosis of uterine affections; whether the symptoms should be ascribed to displacement, to *engorgement*, to granulations, ulcerations, &c. In short, the intra-uterine pessary should not be entirely rejected, but its use should be confined to cases without inflammation, acute or chronic. The instrument should be used cautiously, and not be permitted to remain permanently, and above all, the treatment should be controlled by the rational indications.

M. Huguier was a member of the committee, but did not sign the report. He believed that the intra-uterine pessaries were sometimes useful in cases of displacements, and especially commends their efficacy as emmenagogues, when other means had failed. He considered uterine displacements curable, and closed his able address by describing his method of replacing the uterus when retroflexed, *by inserting pledgets of lint in the rectum.*

M. Hervez de Chegoin was of opinion that uterine displacements give rise oftentimes to distressing syptoms, which were relieved by replacing the organ. This result, however, should be accomplished by *pessaries external to the uterine cavity.* He considered that the intra-uterine pessary should be dismissed from practice.

M. P. Dubois did not believe that the pessaries of M. Chegoin ever would replace a retroflexed womb. He considered the intra-uterine instrument could effect that object temporarily; and the principal question was, are they without danger? Although but temporarily replacing the uterus, they would alleviate and sometimes cure by relieving the weight of the uterus and the tension of its ligaments, and *by the alteration of its morbid sensibility in cases of neuralgia.* Consequently the intra-uterine pessary should be retained in practice, not as directors of the position of the uterus, but as modifying agents which may be placed in competition with cauterizations, douches, &c. In all cases, the general treatment should be attended to as well as the local.

M. Cazeaux expressed his opinion at great length. He objected to the report as giving the unfortunate cases, and suppressing the successful ones. He believed that by removing the displacment, the symptoms and even the concomitant lesions might be cured, but differed with M. Dubois, in maintaining the efficacy of M. Chegoin's vaginal pessary in retroflexion. He considered inflexion to be a congenital condition in the child, thus adopting the opinion of Boulard, Follin and Verneuil. He was opposed to the use of the intra-uterine pessary, but thought the uterine sound a useful instrument.

M. Gibert maintained that too much importance had been attached to uterine diseases which often depended on constitutional conditions, and he mentioned instances, where erroneous and overstrained views had led to methods of treatment as harsh and dangerous, as they were useless and uncalled for.

M. Velpeau, in one of the most important addresses delivered during the discussion, entered at length into the details of the question,

and opposed in strong terms, the report. After passing a high eulogium on M. Valleix and his practice, he proceeded to say that the effects of uterine displacements were not exaggerated. He recognized the importance of replacing the organ, and rapidly reviewed the principal remedies, which he declared to be generally inefficient. In consequence of this conviction, he had long ago tried the intra-uterine pessary, but had deserted it more on theoretical than practical grounds. He now thought the dangers of these pessaries had been exaggerated, and confidently trusted to the experience of M. Valleix to disclose the advantages and objections to their use. M. Velpeau was of opinion that the conclusions of the report should be suppressed, and that the Academy could only act on the cases of MM. Broca and Cruveilhier.

M. Amussat said that the idea of introducing bougies (*tiges*) into the cavity of the uterus suggested itself to him in 1826, on seeing M. Recamier use the uterine sound for diagnostic purposes. One of the first cases in which he used the pessary, was that of a woman with anteversion. He introduced a pessary with an ivory stem, and allowed the patient to go about with the instrument in the womb. Inflammation supervened, and the woman died. Distressed at this mishap, he attempted to remedy displacements with extra-uterine instruments. He employed for this purpose conical pessaries shaped like cupping glasses, but had to give them up on account of the pain they produced. Much discouraged by the results of instrumental treatment, he adopted the practice of *cauterizing the posterior part of the cervix*, that by the adhesions formed during the cicatrization of the sore, the displacements might be radically cured. He was led to this idea by noticing those spontaneous cures of uterine displacements, resulting from local inflammations and ulcerations, producing adhesions between the vagina and uterus, and he thus imitated nature. The results of this practice were very favorable, and M. Amussat related many cases. He did not think the cauterization of the anterior lip of the cervix so beneficial in anteversion, and in such cases, he used a pessary (*en gobelet*) to support the womb. In conclusion, he condemned the indiscriminate use of pessaries, more especially of the intra-uterine instrument, and declared his method of treatment to be free from danger and more successful.

M. Malgaigne again spoke at great length. He referred to what had been said by M. Dubois with regard to the frequency of neuralgia of the womb; for, although he had seen it he did not regard it

as common, but he bowed deferentially to the experience of M. Dubois. He maintained that the pain caused by pure displacements of the uterus would be relieved by the recumbent posture, and that this circumstance was pathognomonic of the affection. He looked upon the speculum as of little use in displacement, as he had known cases diagnosed by its use, as ulcerated cervix, and treated needlessly with cauterants. The suffering caused by displacement was by no means regulated by the extent of the deviation, but rather by the peculiar susceptibility of the patient. M. Cazeaux had said that congenital displacements were seldom the cause of pain, whilst those occurring accidentally always produce suffering. He could not see how the distinguished gentleman ascertained the difference, unless by asking the patient—"Madam, have you had this inflexion since your birth?" The speaker then alluded to M. Velpeau's address, and closed his remarks by declaring his belief in the uncertainty of any permanent cure for uterine deviations. He believed that, in some cases, there was a spontaneous cure, in others, complete recoveries had been effected, but there was no certainty in any mode of treatment.

M. Ricord desired to make a few remarks on the treatment of certain hyperæsthetic conditions of the uterus consequent on displacement. He considered that much of Valleix's success was dependent on his isolating the uterus from its painful position without making pressure on the morbidly sensitive parts. He had invented an instrument which would isolate and support the uterus without entering its cavity or touching the vagina. This instrument was a forceps which was introduced by the aid of a speculum, and the points of which seized the cervix. By means of a ring moved by a screw, the uterus could be raised to any required point, and the whole apparatus was fixed by means of the plate (*plastron*) of M. Valleix's instrument.

M. Robert, being a member of the commission which brought in the report, made an address, which we can only notice very briefly. He did not think that the influence of uterince displacements had been exaggerated. He had for a long time been in the habit of using dilating bougies, without any bad result. He had also used Simpson's pessary. Although injurious results had followed the use of this instrument, he admitted that there were cases where all other methods failed, and this mode of treatment had been productive of lasting good. He thought it would be premature to exclude this instrument from practice.

M. Depaul, lastly, replied at great length to the numerous strictures on his report. He did not believe in M. Huguier's exceptional cases requiring the use of the intra-uterine redressor. As for its value as an emmenagogue, true, it produced a bloody discharge, but it was not the menstrual secretion, but a true hemorrhage which had been mistaken for menstruation. He protested against the injustice of M. Cazeau's accusation of having only reported the unfortunate cases. He knew of no successful ones. M. Cazeaux alluded to the catarrhs, granulations, ulcerations and neuralgia co-existing with displacement. There were the lesions to be attacked and relieved. He denied M. Cazeaux's statement that anteversion was the normal condition in children, and women who had not borne children. Intestinal expansion in the dead body might raise the organ, and so deceive observers. He regretted that M. Cazeaux had omitted to give the "proper precautions necessary to render uterine catheterism safe." He then asked M. Dubois if his statement was true, that the uterus was never permanently replaced by the use of instruments, where was the advantage of a dangerous attempt with the intra-uterine redressor? (*"Les redresseurs ne redressent pas."*) As for M. Malgaigne's hypogastric belt, he had been invited to see it applied in two cases at the Hospital St. Louis, and upon examination manually and by the speculum, he ascertained that ulceration existed in both case, and although there was slight anteversion in one instance, in the other, there was no displacement at all. He agreed with his learned master, M. Velpeau, as to the scientific attainments of M. Valleix, but he did not approve of his practice. Velpeau declared that the great difficulty was in applying the instrument, but he (M. Depaul) thought that such men as Valleix, Huguier, Nélaton, Aran, &c., ought to be able to do it. What astonished him was that the uterus was so intolerant of a clot of blood or a small polypus within its cavity, and yet would bear with patience such an instrument as this. He closed his remarks by laying before the Academy the following conclusions, carried by a majority, with the exception of the third, in which M. Depaul said he was at variance with his colleagues:

1st. The cases reported to the Academy by MM. Broca and Cruveilhier, along with numerous others on record, prove that the use of the intra-uterine pessary may often occasion serious accidents, and sometimes even death.

2d. In the rare cases in which this instrument has appeared pro-

ductive of advantageous results, it is not proved that it had always acted by replacing the uterus.

3d. In some exceptional cases where uterine displacements (deviations) have occasioned serious functional derangements, and where all known therapeutic measures have been tried in vain, the application of the intra-uterine pessary may be tried as a last resource.

4th. The commission has the honor to propose a vote of thanks to M. Broca, for his very interesting communication which has originated the late debates; and also to M. Cruveilhier.

The president put the first conclusion to the vote.

M. Velpeau.—This conclusion appears to me to have been adopted; but it is too severe. Instead of saying "the use of the intra-uterine pessary may *often*," I would substitute the words, "may *sometimes* occasion," etc.

The President.—It is proposed to suppress the adverbs altogether. It should be read: "The use of the pessary *may* occasion," etc.

The President then put the first conclusion to the vote, with the word "*often*" suppressed. It was adopted in this modified form.

The *second* conclusion was carried unanimously, without any modification.

The *third* conclusion was then read, and M. Gibert demanded its suppression.

M. Velpeau.—I insist on its being allowed to remain.

M. Cazeaux.—I am convinced that the use of the intra-uterine pessary is always useless, and sometimes dangerous. I can not adopt this conclusion.

The President.—It contains the words, "as a last resource." For this purpose we may try any thing (*laughter*).

Several members proposed the suppression of the conclusion, and the President proposed to put it to the vote.

M. Jobert requested the suppression of the words, "as a last resource" (*comme dernière ressource*).

M. Velpeau supported this amendment.

The conclusion, thus modified, was put to the vote, and was rejected.

Art. V.—*Chloroform in Fever.*

Dr. Gordon, of the Hardwicke Fever Hospital, resorts to the use of chloroform to subdue the nervous irritation in fever, and obtain sleep. He remarks:

To the different means which have been made use of for this purpose, I would now add the internal administration of chloroform. I have used it with the happiest results when all other means had failed, and I can speak with confidence of its certain and speedy action. The following case affords a good example of its effects, and the mode of its administration:

Patrick Dempsy, aged 25, was sent from Santry to the Hardwicke Hospital, on the 8th of December; he had been eleven days ill of fever; his body was covered with dark-colored maculæ; his pulse was 110, and very weak, his speech muttering and indistinct; he had subsultus in both upper and lower extremities. His head was shaved, he was ordered the bark mixture of the hospital, and half a pint of wine. Late in the evening he began to rave violently, and could not be induced to remain in bed; he was ordered large doses of hyoscyamus, and the back of his head was blistered; he was so violent as to require the use of a strait waistcoat all night. December 9.—Has not slept since admission. Pulse 132; very weak. He continues constantly muttering and raving. Tongue dry and brown; eyes slightly suffused; head not very hot; respiration short, frequent, and irregular. He still requires the strait waistcoat to keep him in bed. He was now ordered twenty-five minims of chloroform in a draught, to be repeated in an hour. After the second draught his agitation and restlessness ceased, and the waistcoat was removed. He dozed a little through the day, but only for a few minutes at a time. Towards night he again became restless and delirious; the same quantity of chloroform was again administered, and repeated in an hour, when he fell into a sound sleep, which continued for nine hours. He awoke perfectly sensible; the subsultus had ceased, and his pulse had fallen to 100. He continued to improve, and in a few days was convalescent.

In this, and other similar cases, chloroform acted by producing anæsthesia of the sensory nerves, and exerting a paralyzing influence on the muscular fibre; and this it appears to effect without depressing or deranging a nervous force, as is the case with sedatives in general, while it is altogether free from the objection of

causing depression of the action of the heart, as is the case with some special sedatives. My colleague, Dr. Corrigan, has just treated a somewhat similar case by the internal administration of chloroform. I had an opportunity of daily witnessing the progress of the case; and, by his permission, I here append it.

Denis Behan, æt. 20, a porter from High street, was admitted into the Hardwicke Hospital, January 4, 1854, the fifth day of his illness. On the sixth day he was thickly covered with bright maculæ. His tongue was loaded, but moist; his pulse 112; respiration 22; no abnormal sound in the lungs; no tenderness of abdomen. He is reported not to have slept for two nights. His eyes are red and injected, and his head hot. His head was shaved and cold lotion applied. Seventh day.—Pulse 116; respiration 28; slept but little. Eighth day.—Pulse 120; very feeble; respiration 32. Ordered bark and wine. Ninth day.—Pulse 126; very feeble; respiration 32; head hot; constantly raving, and getting out of bed; no sleep; subsultus of hands; tongue dry; great difficulty of utterance. Vesicatorium nuchæ; eight ounces of wine. Tenth day.—Pulse 130; weak; raving continually; difficult to restrain; requiring the strait waistcoat; constant talking; no sleep; tongue brown and dry in the centre; thirsty; eyes very congested; pupils dilated. Chloroform was now administered by inhalation, without any other effect than the pulse being slightly reduced in number. The patient was in no way quieted by it. Four leeches were now applied to the temples without any good effect. At 5 P. M. he took ℥ss. chloroform by the mouth, and continued it every second hour till 11 P. M., when, as he did not sleep, and the delirium continued, he took a similar dose of chloroform every hour through the night. At 3 A. M. he was somewhat quieter, but the same dose was continued every hour till 8 A. M. Eleventh day, 10 A. M.—Much quieter, but has not slept. Pulse 110; pupils natural size; subsultus nearly gone; tongue brown all over; sordes on teeth; bowels free; urine high colored, sp. gr. 1-020. Another dose of chloroform in the same quantity was again administered; about twenty minutes after its exhibition he fell into a quiet sleep, which lasted two hours. Shortly after waking, he took another half drachm of chloroform, when he almost immediately fell asleep, and awoke after several hours, much refreshed and quite collected. His return to health was further indicated by the immense quantity of nitrate of urea, which an excess of nitric acid deposited from the urine.

In the above case the chloroform was longer in producing the effects than in any instance in which I have yet used it. We learn from it, however, that we are not to be discouraged by the apparent failure of the first dose or two in procuring sleep, for, as in the present case, although actual sleep may not be at once procured, we may expect that a state of calm and quietness will be induced, which would soon be followed by "*Nature's sweet restorer, balmy sleep.*" We learn also from this case, that the inhalation of chloroform is, to say the least, useless in procuring sleep in cases of cerebral excitement in fever. I had, on one occasion before, in the Hardwicke Hospital, fully tried this mode of administering it; its inhalation was followed by general convulsive movements, very similar to an epileptic seizure, and I have not since administered it by inhalation in any similar case. Dr. Corrigan carefully tried the effect of inhalation three times in the above case; each time without any good effect.—*Dub. Hos. Gaz.*

PART THIRD.

BIBLIOGRAPHICAL NOTICES AND REVIEWS.

Drake's Systematic Treatise, Historical, Etiological and Practical, on the Principal Diseases of the Interior Valley of North America. Edited by S. Hanbury Smith, M. D., and F. G. Smith, M. D. Second Series. Philadelphia: Lippincott, Grambo & Co., Publishers, 1854. (For sale by Riley & Co,)

This work, looked for some time before the author's death, has at last made its appearance through the publishing house of Lippincott, Grambo & Co., and contains nearly one thousand pages, done up, so far as mechanical execution is concerned, in very superior style.

It is a proper sequel to the volume published a short time before the author's death, and which latter is confined mostly in the attempt to lay the foundation for a history of the diseases in the Interior Valley of North America, among the Caucasian, African, Indian and Esquimaux varieties of its population.

In looking through the volume before us, we observe that the author in making out the history and treatment of most of the diseases considered, has introduced the observations of quite a large number of the physicians residing in the different localities embraced by the work. This to many might seem to be objectionable. Why not make the work the result exclusively, of his own observations? He has lived long enough, some would say, in the Valley, to have observed every form and phase of the diseases which take place in it. Well, we presume he was actuated among other things by the maxim which says, "In the midst of counsel there is safety;" or the one that "two heads are better than one, allowing one of them to be a sheep's head." In looking, however, carefully into the character of the matter, we find that the extent of country, embraced by the work is vast. Some seventeen degrees of latitude and as many of longitude; that its physical character was much diversified; that the constitutions and habits of the people in the different regions differ almost as much from each other as do the inhabitants of any two countries on the face of the globe, that much of the territory, embraced by the work, has been settled less than half a century, and that by a population, partly American, but mostly foreign, and from countries in some of which there is nothing like malaria to disturb the physiological condition of the system. How, therefore, could the author or any other, not possessed of individua omniscence give a faithful and accurate description of disease occurring under such a variety of circumstances. The only course that an unselfish lover of truth could pursue seems to us the one adopted by the author. He passed over most of the country himself, observing all that he could; and then receives from physicians practicing in the different localities, their accounts of the diseases most prevalent in their neighborhoods. These facts he digested, and incorporated those of them that he thought valuable in the body of his work; and he has appended to them such remarks as he regarded proper. Thus constituted, the work may be regarded as a reflection not only of the extensive observations of the author himself, but also of the intelligent portion of the profession. The reader or the intelligent physician, educated in countries where diseases such as the author has described, do not abound, will here see not only the experience of a single physician, in regard to the pathological habitudes and the treatment most successful, but a digest of the combined

judgment of a great number of medical men, who for strong sense and things practical in the profession have, in our humble judgment, no superiors on the earth. They are the men that don't fold their hands and imagine all is well when a malignant intermitetnt has made one demonstration before them. They know its usual tendencies and what may be expected from a repetition of paroxysms, and instead of pattering over the patient with a few time-keeping fibre fingers, such as might be proper in Lawes' Typhoid Fever, they resort at once to the proper remedies, and in quantities sufficient to avert the impending catastrophe. Who, we may indeed inquire, are more competent to give a history complete of malaria, the various forms of disease to which it gives rise, and the manner in which these become mixed up with other complaints than such men as Dowler, Sutton, Cartwright, Boling, Ridgley, Fearn, Carrol, and a number of others that the author has cited—men that have spent the most of their lives in the localities where accurate and comprehensive information can, on this subject, alone be obtained. We have no disposition to institute invidious comparisons, but we cannot resist the conviction that the opinion of either of the individuals alluded to, touching the subject under consideration would be worth more than those of most of our American, English, French, or German authors, distinguished for writing works on Practical Medicine.

A portion of the volume before us is taken up in the consideration of Fevers—Autumnal, Yellow, and Typhus. After these the author introduces Phlogistic Fevers, Eruptive Fevers, and the Phlegmasiæ.

As is usual, Autumnal fever is divided into simple and inflammatory intermittents, malignant intermittent, and remittent—simple and inflammatory.

Our space is not sufficient to notice the author's views in detail on these interesting subjects. What he has, however, said on the symptomatology of malignant intermittents, seems to us valuable, and we therefore insert the following:

"There is not perhaps in the whole range of symptomatology, a more difficult task than that of making a graphical presentation of the symptoms, which accompany and characterize our malignant intermittent fevers. This results from several causes: *First.* Their number; all the functions being morbid. *Second.* Their simultaneous occurrence; as if the whole of the organism had been affected

by the direct action of the remote cause at the same time. *Third.* The suddeness of their occurrence on the access of the paroxysm; presenting in a single hour, transition from a state apparently bordering on health, to one of impending dissolution. *Fourth.* The deep involvement of one great organ in one case—of a different one in another, and a consequent modification of the symptoms. Compared in the diversity of their phenomena with the most malignant cases of scarlatina, typhus gravior, or epidemic cholera, they are decidedly more difficult to portray in a methodical and faithful manner than either. Moreover, their malignity sometimes shows itself by the slightest possible anomaly. Thus a partial numbness, or a coldness of the great toes, instead of a regular chill, or a disposition to sleep at the access of the paroxysm, may be all that suggests anything more than the most harmless intermittent. Hence they stand connected, on the one hand, with a simple ague: while, on the other, they graduate into the malignant remittent type, in such a manner that a separate description would scarcely be worth the trouble, were it not that a series of morbid states, however intimately catenated, must be studied in its links, before it can be comprehended in its entireness.

"By far the greater number of cases begin as regular intermittents, with a cold fit too slight to excite more than a moderate shivering; such, for example, as ushers in a simple remittent. The cold stage is not followed, however, by the well-developed and prolonged hot stage of that variety of fever; but by one so inconsiderable, that the patient in many cases is soon upon his feet, and often resumes his business till the next day, or the day after that. If nothing should have been done, the second paroxysm will be more severe; his coldness will be greater and more prolonged, yet not productive of a shake; he may have a considerable degree of drowsiness, or dyspnœa, with a sense of thoracic oppression; his stomach may become irritable, with a sense of epigastric sinking; or some topical sweating may show itself. To these symptoms, but more slowly than the day before, will succeed a reaction of moderate force, and when it ceases, the patient, if not alarmed, will be again out of bed, and, perhaps, occupied. The third, and even the fourth paroxysm may thus pass away; each, however, presenting an increase of intensity in the symptoms, and a full development of them be reserved for the fifth. But this is rare; and, in the majority of cases, the third

fit not only discloses the danger of the patient, but often proves fatal; or he struggles through it to die in the next. The disease, however, does not always advance in this gradual manner. Almost every physician, where it prevails extensively, has met with examples of fatal termination in the second, and, sometimes, in the first paroxysm. Still further, cases of the most simple kind, which, through several recurrences, have shown no sign of malignancy, have, under the unadvised operation of an antimonial emetic, or an active saline cathartic, proved fatal in the next paroxysm. When the dangerous or fatal paroxysm comes on, the functions of the whole body seem blighted.

"1. That of innervation is blunted and inactive. But little (and no acute) pain is felt in any part of the body; external applications are not much regarded, and even the cuticle, as I have seen, may be torn off, by rough frictions, without attracting the attention of the patient, although neither asleep nor delirious. The organs of special sensation are equally impaired. The intellectual functions, and the feelings, and affections of the mind, are passive; and the expression of the countenance is vacant or stupid. In some cases, a considerable degree of delirium supervenes; but in others, the faculties of the mind, almost up to the moment of dissolution, show nothing more than inactivity. Should there be some degree of delirium, the disposition to action will of course be greater. In many cases, however, the patient sinks into a coma, from which it is difficult to arouse him, and into which he immediately relapses, and continues until the paroxysm passes off, or he expires. These of course are the soporose, or apoplectic intermittents of systematic writers.

"2. The function of circulation is not less impaired than that of innervation. In comatose cases, the pulse is sometimes slow, full, and irregular; but in the majority of cases, it falls rapidly into a state of great feebleness, becomes extremely frequent, shrinks in volume, and finally assumes a thready and vermicular character. Before dissolution it often ceases altogether in the extremities; and has been known to be absent for a considerable length of time, in some cases, which have afterward terminated favorably.

"3. The function of respiration is impaired. The frequency and depth of inspirations is reduced; a sense of fullness in the chest is experienced; and sighing, with the restlessness attendant on embarrassed respiration, and an insufficient supply of air, supervenes.

"4. The digestive functions suffer not less, than those which have been named. The state of the tongue is various. Sometimes contracted and prismatic; but more commonly of its natural breadth and form; generally moist; frequently furred; occasionally red at the tip, but oftener pale and flabby. The appetite of the patient occasionally continues, in the intermissions, up to the fatal paroxysm; but oftener gives place to nausea and gastric irritability; which, on the access of the fit, may terminate in obstinate vomiting; when he sometimes throws up healthy bile, and now and then a fluid of a blue or greenish-blue color. In other cases the fluid ejected is acid. The number of cases in which a dark-colored liquid resembling the black vomit of yellow fever has been discharged, is so few compared with the whole, as scarcely to deserve a recognition; yet in Peoria, Illinois, I saw a patient of Doctor Rouse, who ejected a black liquid from his stomach a few hours before death. The bowels are sometimes torpid and costive; but in many cases there is a watery diarrhœa. Now and then, the matters thrown off have resembled the washings of beef; or water colored with indigo. Discharges of blood are exceedingly rare. Of the condition of the liver and spleen, otherwise than is indicated of the former, by what has just been said of its secretion, nothing special can be recorded. Many patients, however, complain of a sense of fullness and anxiety, through the hypochondriac and epigastric regions, and some, especially of the left side, apparently indicating great engorgement of the spleen; which is doubtless the case, for that organ has sometimes been found in a state of manifest enlargement, immediately after the recovery of the patient.

"5. The urinary secretion presents considerable variety. Some physicians have occasionally seen a great secretion of limpid urine, but in the larger number of cases, it is reduced in quantity, and sometimes the secretion is nearly suspended.

"6. The function of perspiration is, on the other hand, in most instances, greatly augmented—sometimes partial in its extent, more commonly general. The fluid discharged is watery, and may, almost, be seen exuding from the skin, which feels cold, inelastic and doughy; sometimes it is bloodless and pale, sometimes the extremities will assume a dark red, and the spots on which pressure is made will remain white for a time, indicating capillary stagnation.

"7. Lastly, the greatest reduction of energy is, perhaps, in the calorific function. The heat of the extremities, and occasionally of

the integuments of the trunk and head, is signally reduced. It seems as if none were developed in the system, and as great exhalation is constantly going on, from the surface, external applications, both potential and actual, designed to raise the temperature of the extremities, very often produce no effect. In the midst of this reduction, the patient will neither shiver nor complain of cold, but on the contrary, if not deeply comatose, may declare that he is burning up within, and call incessantly for water. Every case, however, is not attended with this remarkable loss of heat. Those which manifest it most, must be classed with the algid intermittents of the systematic writers.

"A patient in the condition here described, must of course emerge from it in a short time, or die. He who might have the greater part of the symptoms, which, for the purpose of a full narrative, have been detailed, cannot, of course, be extricated. But a majority of them may be present, and yet recovery take place. In no other form of fever could this occur. In this, it results from the periodical and paroxysmal character of the disease. As the violent symptoms attendant on the cold stage of a simple intermittent, give place spontaneously, to those of the hot stage, which, in a few hours, as spontaneously cease, and are followed by a complete intermission; so there is, in malignant intermittents, a tendency to reaction and subsequent intermission; and these will occur in every case, in which the depression has not gone beyond certain limits, nor any vital organ sustained a lesion of structure or function, from which it cannot recover. To this inherent and inalienable property, we must ascribe, as to a *causa sine qua non*, the revival of the organism from its depressed and perverted condition: without it, the physician would neither have ground for hope, nor encouragement to effort."

The treatment of malignant intermittent *during the paroxysm* occupies several pages, in which the author considers the relative value of the measures and drugs, having most reputation. McIntosh's plan of *bleeding* during the paroxysm, the author thinks well of, but only in those cases in which the forces of the system are above that grade where the danger from exhaustion and collapse is not imminent. On the other hand he thinks there is a degree on the scale of vital energy, to which the functions often sink in the cold stage of this disease, which renders blood-letting not only inefficient, as a means of restoring the exhausted excitability, but causes the patient to sink more rapidly. *Emetics* that *a priori*, would seem adapted to

such cases, in the general, may disappoint the expectations of the practitioner. They of course, occasion nausea, and this coincides with the downward tendency of the disease. Then, again, and this is especially true of tartar emetic, they are apt to turn upon the bowels, occasioning diarrhœa or hypercatharsis, which sinks the patient. *Cathartics* of a hydrogogue character, are regarded as inevitablely fatal; but calomel, blue mass, and stimulating cathartics, such as oil of turpentine, are not only admissible, but are thought occasionally to favor reaction. Stimulants, the agents that seem to be most positively indicated, in cases where they are most needed, often display no effect whatever. In those of a milder character they seem to assist the forces of the system in rallying from its benumbed condition. Besides the usual articles which are classed under this head, the author enumerates *heat* and *cold*. The first whether applied through the *media* of air, liquids or solids, often fails to be productive of any benefit. It warms the *surface* merely, but owing to the fact that the system under such circumstances is a bad conductor of heat, it fails to reach the calorific function so as to excite increased activity. Baths, extensive cataplasms, or the application of flannels, wrung out of hot fluids, and so covered with oiled silk, as to prevent evaporation, are the best modes of applying caloric. Too high a temperature, it should be borne in mind, tends to destroy the irritability of the muscular fibre, already greatly reduced in these cases. Some years since Drs. Feorn and Erskine of Alabama, suggested the *cold dash* as being in their hands the most valuable means of overcoming the torpidity of the system in cases of the character before us. The author thinks well of the practice in certain cases, and when sufficiently guarded to obviate the abstraction of too much caloric. Cold applied in the form of the dash, increases the irritability of the nervous fibre, it excites the function of innervation, and tends to restore the languid function of respiration. *Internal* stimulants of every kind have been administered; and there appears but little decided testimony in favor of any of them. Opium when there is wasting diarrhœa, and not contra-indicated by the state of the brain, is occasionally very precious in its effects. Quinine has been repeatedly and copiously prescribed during the paroxysms, but there is little or no testimony in its favor.

Treatment during the intermission of the Paroxysms.—This section is confined mostly to a consideration of the sulphate of quinine as *the* remedy to prevent the recurrence of the paroxysms. The following on the *quantity* and intervals of exhibition we insert:

"2. *Quantity and Intervals of Exhibition.*—When the sulphate of quinine was first introduced among us, it was given in one or two grain doses, in ordinary intermittents, and, seldom, in more than double that quantity, for the arrest of the most malignant. The periods of exhibition were every two, four, or six hours, according to the apparent gravity of each case. But although such portions might have proved successful in ordinary intermittents, they were soon found to be insufficient for the malignant; and the practice of giving the medicine, in what would once have been regarded as fatal portions, is now almost universal. Yet, even at an early period, a few physicians went far ahead of their brethren; and the late respectable Doctor Perrine, deserves to be named as one who, twenty-five years ago, in the State of Indiana, led the way in this bold medication. To make known the extent to which this medicine is prescribed by many of our physicians, and, also, to show, that in quantities far beyond the limits of ordinary practice, it does not occasion any permanent bad effects, I will mention the doses in which it is given by many of our physicians.

"On the southern shore of Lake Erie, Doctor Tilden, of Sandusky, told me he has given forty grains at once; Doctor Manter, and Doctor Howard, of Elyria, sometimes administer half or two-thirds of that quantity at a single dose, to be repeated every two hours, through the intermission. These gentlemen practice in the latitude of forty-one degrees and thirty minutes. At Memphis, near the thirty-fifth degree, Doctor Shanks administers the same portions, and has sometimes given twenty grains at once. Between the thirty-third and thirty-second degree, in Mississippi and Alabama, Doctor Young has given, in a single intermission, as much as fifty grains, in ten-grain doses; Doctor Davis, ten grains every hour, or every other hour; Doctor Dancy, from five to fifteen grains at once, repeated occasionally; Doctor Street, from ten to fifteen grains, in the same way; Doctor English frequently administers from thirty to forty grains in four or six hours; Doctor Echols, in anticipation of a paroxysm, took twenty grains at a single dose. The fit was averted, and perspiration came on, with a slow and full pulse; Doctor Sims often administers it in ten-grain doses, frequently repeated; and Dr. Boling regards that dose as rather large, though he has administered fifteen or twenty at once, and knew forty to be taken in one intermission. But the boldest exhibition seems to have been made in Florida, between the thirtieth and twenty-seventh parallels,

by some of our army surgeons. The Assistant-Surgeon, Holmes, has administered twenty, fifty, and even eighty grains at once; and Surgeon Harney, one of the senior, and most authoritative members of the medical staff of our army, has given from thirty to sixty grains at a dose, and thinks the larger the portion the better. It is probable that so many of our soldiers are, or have been, intemperate, that they can bear, or may even require, larger doses than are demanded in private practice. To these facts, intended to show the upward limit of the sulphate in our Valley, and at the same time its harmlessness in large quantities, I may, in reference to the latter, add the following: A man in Cincinnati, by mistake, took two drachms of the sulphate, without injury; a patient of Doctor Sappington, of Memphis, Tenn., who had a relapsing intermittent, took eighty grains at once instead of taking it in eight doses, as ordered, but was not injured; Doctor Fair, of Montgomery, Ala., has told me of a patient, who took an ounce in three days, and recovered; and Doctor Hiriart, of Plaquemine, Louisiana, knew of an old lady, laboring under an algid intermittent, who took ten grain doses, every two hours, till an ounce was swallowed. No bad effects occurred and she recovered."

This summary, with respect to the administration of quinine in different latitudes, and under different circumstances, is interesting. It establishes the fact that the drug can be given in very large doses without exerting a poisonous influence. But, inquires the author, are the large doses mentioned, really necessary to arrest a paroxysm of malignant intermittent? He thinks not, and says that such is also the impression of the most careful observers. But in very violent cases, the practitioner is justifiable in giving the article very liberally—in quantities much above those usually administered. As an adjuvant to quinine in malignant intermittents, opium is favorably mentioned. In grave cases, four or five grains of opium is combined with eight or ten grains of quinine, and administered to the patient some three or four hours before the chill, it is said, scarcely ever fails to arrest the disease.

With reference to the amount of quinine proper to be administered, we incline to the opinion, that there are no rules that are applicable to all cases. The medicine has certain specific effects, among which is "ringing in the ears," which, when present, indicate that the system is under its influence, is intoxicated, and hence in a con-

dition to resist the invasion of the paroxysm. Two grains administered every two hours, until 6 or 8 grains are taken, will in many cases answer the purpose, while in others in which the function of innervation is less active, twenty, forty, or sixty grains may be necessary to produce the same effects.

[TO BE CONTINUED.]

Carpenter's Principles of Comparative Physiology. With Three Hundred and Nine engravings. A New American, from the Fourth and revised London Edition. Philadelphia: Blanchard & Lea. For sale by Riley & Co. 1854. pp. 751.

To every one it is not known that this work differs from the well known one, entitled *Principles of Human Physiology*, by the same author; such, however, is the fact, and although the volume before us contains many of the cuts and some of the matter found in the work on Human Physiology, it contains a vast amount of matter of a different character, and a library is incomplete without them both.

The present work is not only a new edition of the original "Principles of Comparative Physiology" which was received with so much favor both in England and America, but the author states that the many discoveries which have recently taken place in comparative physiology have induced him to re-survey the whole science, and change the plan of the former work, so that in the new edition all the labors of observers in the various departments might find an appropriate expression.

It is useless for us, or any one else, to praise the work before us. It is only necessary that a student look over its contents to see that it abounds in the kind of matter that throws light on every department and aspect of Human Physiology. Much, indeed, of what we regard as being the most valuable in Human Physiology has been learned by investigating the structure and movements of inferior animals, in many of which the tissues, organs, etc., are developed in greater perfection, and on a more extensive scale than in man.

The following, taken from the first chapter of the work, we insert to show the character of the matter it contains:

"The first group of phenomena encountered by the Biological student, is that presented in the many hundred thousand diverse forms of organic structure, of which the Animal and Vegetable

kingdoms are made up; and it is necessary, at the very outset of the inquiry, to settle the principles upon which these are to be compared. In many instances, it is true there can be no room for hesitation; the general type of conformation of two or more organisms being obviously the same, and the differences in detail never obscuring the resemblance between their component parts. But this holds good only to a very limited extent; and we are soon forced to recognize such essential differences, alike in the general types of conformation, and in the form and structure of the component parts, that we feel the need of some guiding principle according to which we may arrange these phenomena for comparison. Now, from the time of Aristotle, downwards to the commencement of the present century, Anatomists were in the habit of regarding similarity in external form and in-evident purpose, a sindicating the analogies between different parts. But although this mode of estimating the character of organs is perfectly correct, when they are considered as *instrumental structures*—that is, when we are inquiring into the conditions of the function performed by them, it totally fails, when we are in search of the plan of organization, according to which their evolution has taken place; since it is frequently found that two organs which are not unlike in external form, and which have corresponding functions in the system, originate from elements entirely different, and are therefore fundamentally dissimilar; whilst, on the other hand, organs which at first sight present little or no resemblance to each other, and are applied to very different purposes in the economy, may be really modifications of the same fundamental components.

"If, for example, we take a cursory glance at the organs of support or motion in the air with which different animals are furnished, we shall observe a community of function, and a general similarity of external form, concealing a total diversity of internal structure, and of essential character. Amongst all the classes which are adapted for atmospheric respiration, we encounter groups of greater or less extent, in which the resistance of this element becomes the principal means of progression; and even among aquatic animals, there are instances in which the function of locomotion is partly dependent on the same agency. Wherever *true wings* exist among the Vertebrata, some modification of the anterior member serves as their basis; but there is a considerable variety in the mode in which the apparatus is constructed. Thus, in the *Bat*,

the required area for the surface of the wing is formed by an extension of the skin over a system of bones, of which those of the hand form by far the largest part; and this membrane is extended also from the posterior extremity, and is attached to the whole length of the trunk, as well as to the tail, where one exists. In the *Bird*, on the contrary, the wing is formed by the skin and its appendages, attached to the anterior member alone: and here the bones of the hand are developed in comparatively slight degree, those of the arm and fore-arm being the principal support of the expansion. From what is preserved of the *Pterodactylus*, it seems that the wing of this extraordinary animal was extended, not over the whole membrane, as in the Bird, nor over the hand, as in the Bat, but over one of the fingers only, which was immensely elongated in proportion to the rest. In the *Flying-fish*, again, the pectoral fins may be regarded as, in some sort, its wings (though it does not appear that the animal has the power of raising itself by means of their action on the air, the impulse being given at the moment of quitting the water); these fins evidently represent the anterior members of the higher Vertebrata; but the bones of the arm and fore-arm are scarcely developed, while the hand is expanded, and joined immediately, as it were, to the trunk. A very different structure prevails among those imperfect wings, which serve rather to *support* the animals which possess them, in their movements through the air, than to propel them in that medium. Thus, in the *Flying-squirrels*, *Flying lemurs*, and *Phalangers* or "flying-opossums," there is an extension of the skin between the fore and hind legs, which, by acting as a parachute, enables these animals to descend with safety from considerable heights; in the *Draco-volans*, on the other hand, the wings are affixed to the sides of the back, being supported by prolongations of the ribs, and are quite independent of the extremities. Here, we have still the same function and general form; but it would evidently be absurd to say that the organs are of the same structural character. A still greater departure from the type with which we are familiar among the higher animals, is presented by the wings of *Insects*; for these are formed by an extension of superficial tegumentary membrane over a frame-work that is not derived from an *internal* osseous skeleton; but is an extension of the denser subjacent layer of the *external* integument; and this frame-work is penetrated, throughout its ramifications, by tracheæ of air tubes, communicating with those of the interior of the body, and also (at least in the early state of

these organs) by vessels or passages for the circulation of the blood. As regards their essental structure, in fact, these wings correspond closely with the external respiratory organs with which certain aquatic Larvæ (as that of the *Ephemera*) are provided; and hence they have been not inappropriately designated by Oken as "aerial gills." They may, in fact, be regarded as an excessively developed form of those external appendages of the lower Articulata, which are subservient to locomotion and respiration jointly; and it is a very interesting example of the similarity of modification which very different plans of structure may undergo, when a common purpose is to be fulfilled, that, in the wing of the Bird, as well as in that of the Insect, there should be a special prolongation of the respiratory passages into the frame-work which supports it."

Manual of Human Microscopical Anatomy. By A. Kölliker, Prof. of Anatomy and Physiology in Wurzburg. Translated by Geo. Busk, F.R.S., and Thos. Huxley, F.R.S.; with notes and additions, by J. Da Costa, M.D. Illustrated by three hundred and thirteen engravings. Philadelphia: Lippincott, Grambo & Co. (For sale by Riley & Co.)

This work is designed as a hand-book to the student of medicine. Our science has now reached a point at which Microscopical Anatomy constitutes its foundation, quite as much as the anatomy of the organs and systems; and when a profound study of Physiology and Pathological Anatomy is impossible without an accurate acquaintance also with the most minute structural conditions.

The author in the work before us gives a very clear and condensed view of the relations of the elementary parts of the body, and of the more intimate structure of the organs.

Since Malpighi and Leeuwenhoek, early in the 17th century, broached the doctrine of the elementary structure of plants and animals, every generation has contributed its mite in the way of confirmation. It is, however, instructive to witness such minds as those of the 18th century, lingering over the discoveries and suggestions of the eminent individuals named, without being apparently able to take one step in advance, until the time of Bichat, who led off in 1801, giving to the world a classification of the tissues, a full account of their physiological functions and morbid alterations, thus laying the foundations of Histology. Bichat, however, seems to have paid

but little attention to the revelations of the Microscope, and as a consequence was unable to perfect what all regarded in his day as a very brilliant logical generalization. In 1838, Schwann made his appearance as an investigator, and was the first who demonstrated the perfectly identical cellular composition of all animal organisms, and of the origin of their higher structures from these elements. His observations united all previous researches, and afforded the clue to further investigations. About the same time Schleiden made a discovery similar to Schwann's, with reference to the ultimate cellular structure of plants. It would require volumes to recount the influence of these discoveries upon every department of medical science. Much that was in dispute has been settled, and the fog which hung around many things has in a measure disappeared. Future research nevertheless has some things still to elaborate. It would be very desirable to have a little more insight into the molecules which constitute the cell membranes, muscular fibrils, axile fibres of nerves—the laws of their opposition, the alterations which they undergo in growth and decay, &c. Then, again, it appears to be admitted on all hands, that cells are histologically the same, but teleologically different. How is this? How does it come that, all cells being alike at first in structure, become so changed as to give rise in one instance to a liver, in another to a brain, in another to a bone, and in another, as is the case occasionally with those liberated from the ovum, to a fœtus? Just here we want another Malpighi, Valentin, or Schwann. As a specimen of the work, we insert the following:

"As regards the general propositions of Histology, the science has made no very important progress since Schwann; however much has been attained by the confirmation of the broad outlines of his doctrine. The position that all the higher animals consist at one time wholly of cells, and develop from these their higher elementary parts, stands firm, though it must not be understood as if cells or their derivatives were the sole possible or existing elements of animals. In the same way, Schwann's conception of the genesis of cells, though considerably modified and extended, has not been essentially changed since the cell nucleus state remains as the principal factor of cell development and of cell multiplication. Least advance has been made in the laws which regulate the origin of cells, and of the higher elements, and our acquaintance with the elementary process which take place during the formation of organs, must be

regarded as very slight. Yet the right track in clearing up these points has been entered upon, and a logical investigation of the chemical relations of the elementary and of their molecular forces after the manner of Donders, Ludwig and others, combined with a more profound microscopical examination of them, such as has already taken place with regard to the muscles and nerves,—further, a histological treatment of embryology, such as has been attempted by Reichert, Vogt, and myself, will assuredly raise the veil and bring us step by step nearer to the desired, though perhaps never to be reached, end."

In conclusion, we cordially indorse this book as one that can be obtained at a slight expense, compared with what productions of the kind have heretofore cost, and that is indispensable to every physician's library.

Notes of M. Bernard's Lectures on the Blood, with an Appendix. By Walter F. Atlee, M. D.

This little book purports to contain the opinions of Messrs. Bernard and Robin, of Paris, concerning the anatomy and physiology of the blood, as delivered in their lectures during the last winter, and reported by the editor. Their oral instructions were amply illustrated, and, in fact, were possibly modified by their numerous experiments and vivisections performed at the time before the class. Their opinions were duly noted down by Dr. Atlee, in no very clear order, in his note book, and are now published. Some care in the arrangement of the subjects in proper order, and in keeping distinct the different topics touched upon, would not have been amiss in any editor, especially in one who merely transcribes the teachings of others. Still more inexcusable is the want of an index. Nevertheless, the guests are worth entertaining, however clumsily introduced to our notice. We feel thankful for their company, and shall treat them as handsomely as may be in our power.

M. Robin occupies most of the appendix, and confines himself to the anatomy, strictly speaking, of the blood and blood vessels, and parenchymatous organs of the body. These, interesting as they are, we must pass over, merely remarking that they will well repay perusal and careful study by those who pay special attention to microscopical pursuits. We have merely space and time to indicate some of

the results arrived at by M. Bernard, whose experiments in every department of physiology are already so widely known and appreciated.

The blood is composed of a solid and a liquid portion—globules and serum. *Globules* include blood corpuscles globulins, and fatty particles, all of which are held in suspension in the serum ; besides these, air bubbles and various animalculæ have been observed, as in the dolphin, and frog, and the strongylus in Aneurisms. The yellow blood globules are found in all blood. They are increased in number within the liver, being more numerous in the hepatic than in the portal veins. Their color is dependent upon a principle contained within, which exudes in certain apoplectic clots, leaving the cell-walls of the globule entire. White globules are much less numerous ; they are also increased by the passage of blood through the liver ; they are not the parent cells from which the other (yellow) corpuscles are formed.

Fatty particles are found especially in the right ventricle. Fat is altered by the lung—if introduced into the portal system it is deposited in the liver. Fat is found when no fat is eaten, as in animals who had not eaten for eight days. The fat of the body is consumed. *Chyle* is also found during digestion. In animals this can be proved by selecting the time of experiment.

The Serum includes fixed constituents, which can always be found, and fugitive, which are present in order to be eliminated from the system.

The fugitive are

Urea and Uric Acid, only recently detected, as always present in the blood. In 6 lbs. some may be found. In the ox, hippuric acid is discovered. When the kidneys, the organs of elimination for those substances, are removed Urea and uric acid are found in the stomach, the blood still being feebly charged with them.

Carbonic Acid is eliminated by the lungs. If a certain amount be breathed, and thus enter the arteries, life is destroyed ; yet a much larger quantity may be injected into the veins, whence it passes out by the lungs with impunity.

Sugar is found in proportion of 1 per cent. When in larger quantity, the excess is carried off by the kidneys, otherwise the lungs eliminate it. Lactic acid is an intermediate form. Sugar is formed independently of the sugar introduced from without—the liver being the factor ; it is made at the expense of the blood, which incessantly

traverses that organ. Animals fed on fecula and gelatine, produced sugar, but those fed on fat alone did not have more than if nothing had been given. In carniverous animals azotyzed substances contribute to its formation, azote being eliminated with the bile. In the hepatic vein the quantity is about 1.50 per cent., 2 per cent. being the highest ever seen. The quantity is increased by irritating the nerves supplying the liver, and altogether suspended by their section. In herbivorous and carnivorous animals the proportion of sugar is identical.

The *fixed constituents* include albuminoid principles, oxalmine, and anoxalmine. Fibrin and albumen are constantly found. M. Bernard thinks they can be transformed one into the other. Fibrin is destroyed to some extent by the liver, the proportion being related to the bile and sugar formed. It exists largely in the portal, and hardly at all in the renal veins.

Inorganic matters are found in both solid and fluid portions of the blood, viz: iron, which, like fibrin, is diminished by the liver; potash and soda; chlorides in the serum, but feebly in globules; phosphates vice versa. Maganese and copper have also been discovered.

Gases are chiefly absorbed by the globules.

The blood is divided into venous and arterial. The change takes place in the lungs—from the latter to the former in the capillaries. Both are essential to life. In animals exposed to carbonic acid or carbonic oxide, death is equally speedy, though the former causes all the blood to resemble venous blood and the latter arterial blood. Venous blood varies in the constituents in different situations. It is only found perfect in the right ventricle. Arterial blood is every where the same, and is the vital fluid conveyed by the pulmonary viens from the lungs which supplies, to the heart which propels.

The changes that occur in the transformation, &c., of elements in the blood, M. Bernard considers due to fermentation.

The movements of arterial blood result from pressure of the arteries—impulse of the heart causing pulsation and respiration. Arterial pressure is every where the same in proportion to the amount of fluid contained. That which occurs during digestion produces the turbid urine seen at that time in animals. It is not troubled during abstinence.

Cardiac impulse is felt in inverse proportion to the distance from the heart.

Respiration, when rapid, increases the rapidity of circulation. When the breath is held long, as some have the power, the arteries can be emptied, and thus no pulse perceptible for a time.

Temperature is uniform in the arteries, but varies in the veins. In the liver it is one degree warmer than before its entrance. It is warmer in the veins than in arteries—in the right than in the left ventricle, contrary to the received opinion. The experiments on this point are very elaborate. The capillaries (not the lungs) are the sources of animal heat.

As to the *quantity* of blood in the body the experiments of Valentin are repeated. Digestion increases—starvation decreases it.

The *rate* of the circulation may be augmented or decreased by agents, as alkalies and acids—the former accelerating, the latter retarding it.

The blood is decidedly alkaline in its reaction.

Fermentation takes place readily in the blood on the application of yeast and sugar.

The *Albumen* appears to suspend the laws regulating certain bodies in blood, thus copper is held in solution, although alkalies precipitate it without the presence of albumen. Lactate of iron and cyanuret, injected into the jugular veins of living animals, did not form Prussian blue in the blood, but in the intestines and excretions. When the albumen was destroyed a splendid blue was formed.

The influence of the nerves on the blood is alluded to fully.

Section of the pneumo-gastric diminishes the respiration and animal heat, but increased the rapidity of the heart's pulsations.

Section of nerves (the Par Vagum especially) diminished the pressure of the arteries, so the heart varies as the anterior or posterior root of the spinal nerves are interfered with.

Section of the nerves supplying the liver arrests the formation of sugar, while irritation increases it.

Section of the Sympathetic causes increased vascularity, which disappears to a certain extent after a while, and greatly increased animal heat, which persists. The experiments confirming this are taken at length from a paper read by M. Bernard before the Biological Society of Paris.

The vital characteristics are:

Coagulation, connected in some way with respiration, not necessarily related to the proportion or presence of fibrine. Renal blood, which has no fibrine, coagulated. Section of the Sympathetic in a

horse caused a coagulum to form much more rapidly than usual, yet diminished quite remarkably the amount of fibrine.

Regeneration. An animal bled to syncope one day, has the same apparent amount of blood the next. Still more marked is this quality in fibrine, which is increased at every successive bleeding from the same animal.

We are obliged to pass over many topics of interest without remark, but we trust we have said enough to show our readers the important and interesting nature of the subjects the book professes to treat upon. To the earnest student of Physiology its teachings are highly suggestive. R. G.

Transactians of the American Medical Association, Vol. VII. 1854. New York: Charles B. Norton, 71 Chambers street.

This volume is less in size than several of its predecessors, though its contents are highly interesting, and in mechanical execution is very good.

It commences with the address of Usher Parsons, Vice President. Then follow the report of the committee on Medical Education, reports of the different committees on the Epidemics of Kentucky, Tennessee, Ohio, Indiana, Michigan, Louisiana, Mississippi, Arkansas, Texas; a paper on Erysipelas, by R. S. Holmes, M. D., of St. Louis; a Prize Essay, by D. Brainard, M. D.; an Essay on the Toxicological properties of cryptogamous plants of United States, by E. P. Porchar, M. D.

The report of E. D. Fenner, M. D., on the Epidemics of New Orleans, during the last year, is a very valuable paper. We have no space now for an analysis of it, but cannot pass over the *mortuary table* without a passing notice.

This table shows the mortality from *all causes*, to be 15,633. Of this number 7,849 were from yellow fever. Only 142 of these occurred previous to the month of May; 1,482 in the month of July; 4,962 in the month of August; 740 in September. In regard to *sex*, it appears that 5,309 were males, 2,496 females—leaving 44 unascertained. With respect to *color*, 7,811 were *white*, 38 *colored*. The *nativity* was imperfectly ascertained. It was made out, however, in 3,993 cases; 344 of these were born in the United States,

3,649 in foreign countries—Ireland, Germany and France furnishing almost the whole number.

Estimating the population of New Orleans at the time that the epidemic broke out, at 120,000, we find that the mortality was, during the past year, about 6 per cent., or 1 in 16.

The report further states that at the time the pestilence broke out, the city was in the *filthiest* condition that it had been in for some time—that the first cases occurred in persons who had been there but a short time; that no vessel from any foreign port brought any cases of yellow fever into the city previous to those which originated in it; that the disease was the same that prevails to a greater or less extent every year, but much more malignant; that all the varieties of *endemic* fever which prevail throughout the Southern country, were seen in the midst of the epidemic and interchanged type with it.

Here are statistics and facts in regard to one of the most formidable diseases that afflict and destroy humanity, over which the medical philosopher may well ponder. How does it come that the disease exhibits such a preference for males over females? And why is it that negroes are almost entirely exempt? With respect to the former question, we shall not at present venture a reply; to the latter, we hazard the opinion, that the climate was made for negroes and not for whites. The former do well in it under all circumstances, even, as the statistics show, during the prevalence of the most malignant epidemics—the latter drag out a stunted existence under the most favorable circumstances, and when endemics prevail, are swept off by the thousand. Acclimation is talked of. What is it? Out of an hundred that go from the Northern States to reside in New Orleans, a few escape the pestilence. This only proves that the few have organizations that can resist any thing, even the poison of yellow fever. The climate, indeed, has its archetype in Liberia and other portions of Africa, where notwithstanding all the efforts that the Caucassians have made to become acclimated, still the enterprise is perfectly abortive. Even negro veins seem to be no protection to Caucassian blood. Mulattoes do but little better than whites.

PART FOURTH.

EDITORIAL AND MISCELLANY.

Malarious Fever and Cholera combined.

During the past summer and fall, we have witnessed a number of cases of fever in our city, mostly confined to the western and northern parts of the city, that exhibited rather an uncommon series of phenomena. The disease was evidently of malarious origin, and generally of the intermittent character, though some cases were remittent in the commencement, and maintained this form throughout their course, assuming, after a few days, a typhoid tendency.

Fever, of a malarious character, when well defined, as all know, has a distinct cold stage, hot stage, and sweating stage. This order in the cases we have under consideration, did not usually obtain. *Perspiration* copious, sometimes wasting, made its appearance, apparently at the onset, like we have frequently in connection with visceral inflammation, and after continuing for a week or ten days, it would cease and the skin become dry.

The digestive organs were always much deranged. Vomiting alone, or connected with diarrhœa, was by no means unfrequent. Cases thus characterized in their commencement were quickly prostrated. This was especially true if the diarrhœa and cold stage of the fever came on at the same time, a circumstance of very frequent occurrence. It was supposed by some, whose observations were entitled to respect, that the diarrhœa often stood in the relation of effect to the chill or cold stage. The recession of the blood from the surface to the deep seated organs, it was thought, favored the tendency to watery effusions into the alimentary canal, and as a consequence, the diarrhœa.

Another feature not usually seen in this climate in connection with fever of any kind, was *jaundice.* The skin in a number of cases commenced getting yellow at an early stage, the hue increasing in intensity as the complaint advanced, until the entire surface and the eyes were as highly colored as in genuine cases of yellow fever. As the febrile orgasm declined, and sometimes before, the skin assumed the dark brown appearance familiarly known as "black" jaundice. This in some cases continued for weeks after the principal force of

the complaint had been subdued. It was no uncommon thing to find the skin in this form of the complaint covered with perspiration —sometimes copious.

From what we saw, the termination of a majority of the cases when rightly treated, was favorable. The mortality that obtained, was confined mostly to those patients who either had, or were predisposed to diarrhœa. This, coming on simultaneously with the chill, produced a series of phenomena and results, such as very much resembled cholera; and indeed by some, these cases were regarded as cholera. The pulse diminished rapidly in force, the skin became bloodless and shrunken, the urine scanty, thirst urgent, the voice husky. Death took place occasionally during the cold stage, and sometimes as early as the second or third paroxysm, usually, however, not until later.

In the treatment of cases not complicated with diarrhœa, but with a skin intensely yellow, it was our practice to evacuate first passages and then commence the administration of quinine. This practice proved to be applicable to patients where the febrile excitement had a distinct intermission, but in those where there was only a slight *remission*, the quinine seemed useless. These latter very soon assumed the adynamic type, and were most successfully conducted through their course by medicines calculated to purify the blood and increase the strength of the system. The cases complicated with copious watery discharges from the bowels, required quinine, opium, astringents. The secret, indeed, of curing this form of the disease, consisted in restraining, at the time, the peristaltic movements of the bowels, and preventing the recurrence of the paroxysms. These being checked, some patients soon recovered, while others in whom perhaps the impress of the poison had been more intense upon the nervous centres and mucous surfaces, became typhoid, (we know of no better name for the condition,) and continued in this state for weeks, betraying most of the phenomena usually characterizing a case of idiopathic typhoid fever.

How are the leading features of cases, such as we have described, to be explained? We know of no other way, than by supposing them due to highly concentrated malaria, and the causes of cholera combined. The malarious influence evidently predominated, and impressed itself most positively. Still, intense as it was in many cases, it was only when it was combined with the wasting discharges from the bowels, that we had much mortality.

Death of Dr. Golding Bird.—For some time Dr. Bird has labored under disease of the heart, and in June last he was compelled to retire from business. He died on the 27th Oct. at Tunbridge Wells, at the early age of thirty-eight. His last illness was complicated with prominent disease of the kidney, and it is said that this was the immediate cause of his death. Thus, it seems he fell a victim to a malady, to the elucidation of which the greater portion of his life had been devoted, and in the diagnosis and treatment of which he had been one of the greatest authorities.

Old Fogies.—In these days of progress, an individual who so far mistakes his "chief end" as to betray the possession of a portion of that old fashioned faculty called *caution*, with reference to any of the new schemes, projects, or doctrines of the day, has his movements about as carefully watched, and his traits as much commented upon, as if he were about to invade the country with the army of a Xerxes. Should he find it necessary to exhibit any especial care in regard to the many discordant systems of medicine which have been showered upon us with such profusion from various parts of the world, he is, like as not, styled an "Old Fogie;" or should he suggest that new things should be submitted to the crucible of experiment, before being adopted into general use, he will most probably be called an old empty-pated "wheel-hoss," good for nothing but that of holding the race back from the triumphs that await us in the future. Progress, go-a-headativeness, every now and then seems to come on our race in paroxysms, and as long as the paroxysm lasts, those who are careful in the exercise of discretion and judgment with reference to what they believe and practice are compelled by the usages that obtain to go into a state equivalent to hybernation, until the progressives, intoxicated with errors, absurdities, transcendentalisms, etc., are compelled to halt and ask for consultation.

This, we imagine will soon take place with reference to a number of medical men, who, by influences of various kinds, have succeeded in holding a connection with the medical profession, while, at the same time, they have been engaged in sowing broadcast over the land, doctrines, that in sober times, would secure places for them in a Lunatic Asylum. We refer to such men as Henderson, who, while Professor of Pathological Anatomy in the University of Edin-

burgh, Scotland, makes use of his leisure to disseminate doctrines which, for absurdity, have no parallel in the records of delusion. The paroxysm, we hope, for his sake, will soon pass off. For Edinburgh, the former Athens of Medical literature, to allow a man to give currency to such stuff as Homœopathy, while, occupying one of the most important chairs connected withth eexposition of scientific medicine, is evidence that the sceptre ofintelligence no longer graces the theatre of a Denman, a Gregory, a Cullen, and an Abercrombie.

Mortality of the White and Black Races in the United States.—The Census Bureau at Washington have published some tables exhibiting the comparative Mortality of the White and Black Races in the United States.

This table exhibits some facts of no little interest to the ethnologist. In seems that the blacks have a much greater longevity, both general and extreme than the whites, in the slave-holding States; and the difference between the two races in point of longevity, would be still greater in favor of the black, than is represented by the table, if the comparison were confined to the more *Southern* States, such as Louisiana, Alabama, Mississippi, South Carolina, Florida, &c. How are these facts to be explained? Will it do to account for them by the exemption of the negro from care, the lightness of his labor, the physical comforts enjoyed? Or should the character of the climate be invoked?

Resignation of Prof. Gibson.—The resignation of Prof. Gibson, who occupies the chair of Surgery in the University of Pennsylvania, a position he has long held with great credit to himself, and usefulness to the Institution, is confidently expected to take place in the spring, and, as a consequence the gossips are upon tip-toe to see who is to succeed him. Some surmise that the Trustees, will select from the material in their own city, others think they will come West. To the latter we ask the liberty, in advance, of entering our protest, unless they will take some man from among us not over fourteen hands high. There have been trials enough of our good men already made to demonstrate the general fact that they

do not suit East. The late Dr. Drake was perhaps the first medical man invited from the West to take a chair in an Eastern school. He accepted, but only stayed to deliver one course. Others have tried the same experiment, and became satisfied with its incorrectness. There are plenty of Eastern men who could fill the chair, as well as Prof. Gibson has done, and who would be glad of the appointment. In all sincerity, we say, appoint one of them. But it may be said that we have some in the West of more reputation than any that can be found in the Eastern States. Well, granting this to be true, we need just such men here. We expect soon to have a population in the Mississippi valley compared with which all that can be maintained on the Atlantic slope will sink into insignificance, and, as a consequence, we shall want all the ability that can be commanded to educate young men to take charge of their diseases.

Scarcity of Medical Students.—As far as we have been able to learn, there is a diminished number of medical students now in attendance at most of the Colleges in the Mississippi valley, and also on the Atlantic slope. What is the cause of this? Is the taste for medical studies subsiding, or has there any thing sprung up to attract the material out of which doctors are made, to other pursuits? Or have young men felt, in common with the rest of humanity, the dearth in money matters? Perhaps all of these combined, produced the result—guess they have. As a consequence of this state of things there must be a lack of physicians in many regions to meet the wants of society. This will be the case more especially at those points where so many have, during the past season, fallen victims to the epidemics which prevailed.

"Take the Bull by the Horns."—The above is a maxim of importance in many things connected with human pursuits; but, perhaps, in none is its observance more useful than in the studies connected with medical science. Every thing in which we engage, has something about it that is of primary importance, that is, a kind of fulcrum upon which all other things turn. The business man's fortune turns upon his industry and tact; the clergyman owes his success to his piety and ability to make the doctrines he inculcates, popular and practical; the statesman his, to the knowledge he

possesses of the principles of political economy, national dignity, and the relations of the country to other governments. One, therefore, who aspires to any of the positions indicated, will find himself in the vocative, unless he has thoroughly canvassed these elements of success, or in other words, taken "the bull by the horns."

The pursuits of medical men constitute in the general no exception to the principles suggested. Their success, as it can easily be made out by reference to the lives of those who have distinguished themselves in ancient and modern times, depends not upon chance, friends, or favorable circumstances, but upon calculations, which take into consideration the nature of the difficulties to be overcome and the adoption of those modes of procedure that have never yet failed to produce the desired results. If we were to attempt allusion to these, we could not omit to mention the necessity of cultivating regular habits—temperance in eating and drinking, the observance of proper hours for study, for rest and for relaxation. To accomplish any thing with the mind, is next to impossible, unless the body be in a physiological condition "*mens sana in corpore sano.*" A sound mind in a sound body, is a maxim as true as it is old, and one, too, that has had character in every age of the world. We are aware that examples can be adduced, of individuals who have figured in the world, and who were of irregular habits. Burns, and Byron, and Abernethy, are familiar examples. These, however, scarcely constitute exceptions to the rule, for although uncommonly gifted with certain traits for which they found in the public mind of their day a great relish, each one of them nevertheless died prematurely, without, indeed, accomplishing one half of what they might have done, if their lives had been characterized by proper habits. The truth is, the physical of our composition is surrounded by consuming elements, the effects of which we are only able successfully to resist, by strict conformity to physiological laws, laws that promote its continuance and growth. Violate these, and disease or death will as certainly ensue, as effect follows cause.

Another matter that should enter into the calculation of those who wish to be any thing, is, that labor—systematized labor—is not only necessary, but indispensible. Knowledge does not come by intuition; nor by the feeble enervated efforts of the drone; nor by the divided attentions of the man of pleasure—but by faithful, unwavering perseverance of the student. He alone can successfully knock at the door of the Temple of Science, and not merely pray for admittance, but *demand* it.

The following books have been received, and are on sale at Riley & Co.'s Bookstore. They will be reviewed in our next number:

Manual of Pathological Anatomy, by C. Hanfield Jones, M. D., and E. D. Sieveking. (Lea & Blanchard.)

Child-Bed Fevers. By C. D. Meigs, M. D. (Lea & Blanchard.)

Wilson on the Skin and Hair. (Lea & Blanchard.)

Principles of Animal and Vegetable Physiology. (A popular Treatise.) By J. S. Bushnan. (Lea & Blanchard.)

Owen on the Skeleton and the Teeth. (Blanchard & Lea.)

West on the Os Uteri. (Lea & Blanchard.)

Diseases and Injuries of Seamen. By G. R. B. Horner, M. D. (Lippincott, Grambo & Co.)

Sickness and Mortality of Emigrant Ships.

Dr. Beal, the dentist of Philadelphia, lately convicted of an attempt to destroy the virtue of a female who he had put under the use of chloroform for the purpose of extracting a tooth for her, is now in the Philadelphia county prison, and is allowed to officiate as an assistant in the apothicary's department.

During the course of Dr. Beal's trial, and subsequently, some rather knotty questions sprung up with reference to the effects of chloroform. For example, does chloroform, besides producing anæsthesia, or insusceptibility to pain, suspend also consciousness? Such has been the general impression among medical men. Granting this to be true, what is the testimony of an individual under the influence of chloroform worth?

A very good definition of primary insanity is inability of the individual to control his thoughts. This is the point of departure in every case. How does this compare with some of the principal effects of chloroform, those for example that relate to the mind? Among the effects which we first see, are aberration, incoherrence, and trains of thought passing through the mind on other things than those with which it should be occupied at the time, denoting that the will and the ability to voluntary actions have been suspended. What name, then, more proper for the condition of a person under the influence of chloroform than *insanity* — temporary insanity? Dr. Beal's sentence may be just, but unless we see something more conclusive than the testimony of an individual under the influence of chloroform at the time she alleges the injury was sustained, we cannot restrain doubts.

Clinical Notes on Surgical Cases. From the Clinical Lectures of E. M. Moore, M. D., Professor of Surgery, Starling Medical College. [Reported for the *Journal.*]

We intend to lay before our readers, from time to time, extracts from the clinical remarks of Dr. Moore, the Professor of Surgery in Starling Medical College. To report all the interesting cases that occur, or the remarks predicated thereon, would fill the *Journal*, to the exclusion of other matters. We prefer, therefore, to condense our subject, and present such observations as refer to the more practical points in Surgery. It will be apparent that the following is but a summary of what is said on any given topic, and does not profess at all to be a verbatim report.

Diseases of the Eye.—Entropion was illustrated by cases showing the incipient and advanced stages of this affection. This disease consists of an inversion of the eye-lids, whereby the hairs rubbing upon the cornea, excite inflammation and consequent opacity. This, if not relieved, may terminate in partial blindness, more or less severe. Blindness is not apt to be perfect unless ulceration of the cornea should be a sequence of the irritation. The operation that is usually performed consists of the removal of a portion of the skin from the eye-lid, taken as near the edge of the Tarsus as can be done and still allow opportunity for the use of a suture. The amount of skin to be removed is usually more than a young practitioner would be disposed to think necessary. The test of what is requisite must be made before the excision, by grasping it in a pair of forceps, and while the patient elevates the lid to open the eye, the direction of the ciliœ is to be made as nearly normal as possible. The excision can then be easily performed, by following the lower edge of the forceps, which grasp the skin, either with the scalpel or scissors. This gaping wound must then be closed by fine interrupted sutures. It is probable that the hairs have taken on irregular attitudes, as is shown in one of the cases operated on, and if the general direction of the ciliœ and edge of the lid be normal, those which persist in still turning backwards on the cornea must be extracted. The removal of hairs, however, must be abstained from as much as possible, for their frequent extraction tends to produce an increased irregularity of growth. Still, if the edge of the lid is restored to its proper position, a hair which is of a full length, presses at present on the cornea

when it is again developed from the bulb, may turn away and assume its normal position. I know of no operation upon the eye or its appendages, which is followed by so much relief in proportion to its severity and danger, as the one performed in this manner; for the removal of the exciting cause thus easily obtained in most cases, without further treatment of the inflammation of the conjunctiva, results in an entire cure, and in the course of time the absorption of the effusion which has produced the opacity. Yet it must be confessed that these deposits are sometimes permanent, and when not so are frequently assisted in their removal by proper medication.

Fistula Lachrymalis.—The case which presented itself is of two years standing. "It presents," said Dr. M.. "the fluctuations so common in this disease. He has come for relief in the early part of this winter in consequence of the increased annoyance to which it gives rise. During the summer theinflammation was less than during the preceding winter, both in the nasal duct, canaliculi and conjunctiva of the eye-lid. At present the skin upon the cheek is not open, and, therefore, the fistula at present does not exist, but he has had, as is usually the case, an active inflammation of the lachrymal sac, and an ulceration by which its contents have been discharged. This, however, had closed over, and now is presented the swelling of the lachrymal sac indicated by a tumor. Within a short period, fluid has passed down into the nose, rendering it probable that the canal is not entirely destroyed, although it appears to be closed. This closure takes place from merely thickening of mucous membrane, the result of inflammation, as it can not enlarge eccentrically in consequence of the bony canal, its epithelial surfaces being pressed against each other so firmly as to prevent the passage of fluid. It is, of course, desirable to relieve this obstruction without a resort to such an operation as will destroy the mucous membrane lining the canal, and during the acute stage the ordinary antiphlogistic remedies, especially the abstraction of blood by leeches, are frequently sufficient for its cure. This is more apt to be true if the decline of the disease is immediately followed by warm weather. If the inflammation becomes chronic, however, these remedies alone usually fail of their design. It is now necessary to bring in contact with the membrane those astringents which are usually found beneficial, to otther mucuous surfaces. Of these, perhaps, nitrate of silver, of mild strength (from 2 to 5 grains to the oz. of distil.ed water) may be regarded as the most efficacious, but it must be recollected that such

remedies must be alternated with each other in order to obtain their greatest efficacy. Solutions of acetate or sulphate of zinc, acetate of lead, and sulphate of copper, may also be used. These can not be brought into contact with the membrane of the duct unless the canaliculi are pervious. This is usually, though not always, the case, and by dropping the solutions in the corner of the eye, they are removed by the natural apparatus and deposited in the lachrymal sac, and although at first they may not pass into the nose, the constant impression of the astringent is apt to diminish the thickening of the membrane so as to produce a gradual opening of the passage. It is unfortunately true that this plan is not ordinarily successful, and then a resort to surgical procedure becomes necessary. Dilatation may be effected sometimes by catheterism. In this patient an incision was made into the sac, and a very delicate whalebone probe passed into the nose by careful and continued manipulation. This was succeeded by a fine probe cut from the bark of slippery elm, which has the advantage of dilating in an exceedingly gradual and uniform manner. At the end of twenty-four hours it doubles or even trebles its diameter, and a silver style of moderate size may take its place without any cutting operation. The dilatation can not proceed without exciting some acute inflammation, which ordinarily subsides by poulticing. If the dilatation be sufficient, a well polished style should be introduced of silver, gold, or platinum, for the inflammatory symptoms are more likely to subside, in consequence of their smothness. This instrument, ment, or a tube of the same material and form, must probably be worn during the winter, for the cold will hardly allow the inflammation to disappear altogether, but when spring comes it should be removed for a day and then replaced, again removed after a short interval for a period of two days, and thus on, making the intervals a little wider until its use is entirely dispensed with. This may not be successful, for the closure may be so rapid and so great as to render its permanent use necessary.

Club-Foot.—Several cases of this deformity have been presented for treatment. They were all congenital, which, as the Professor remarked, although the usual is by no means the necessary origin of this difficulty, for these deflections of parts arising from muscular contraction in different portions of the body may frequently result from some unknown cause—most probably from nervous derangement, inasmuch as it is found to succeed convulsions and other nervous

diseases, especially during first dentition. The foot may be deflected in any direction from its normal position, receiving the various technical names of—*Varus*, when turned inward; *Vulgus*, when turned outward; *Talipes equinus*, when the heel is raised and the foot turned forward; and *Talipes calcaneus*, when the toes are raised and heel projected. All these cases belonged to the first variety, with the exception of one (Talipes calcaneus), which existed in a child with Spina lifida. In connection with this it was stated by the lecturer that different vices of formation are apt to occur in the same subject. These deflections sometimes resulted from extensive contraction of a muscle without disease, consequent upon paralysis of its antagonist. This is usually the case in Talipes calcaneus. The operation in these cases of Varus consisted in every instance of the division of the *Tendo Achillis* only, and Dr. M. remarked that although in some of them the deflection was sufficient to bring the weight upon the back of the foot, he did not consider it necessary to divide any other tendon when the patients are below two years of age, and not often even above that age. In none of these cases was it advisable to cut the plantar fascia, as must be done when the foot is very much bent upon itself.

The operation was performed on the *Tendo Achillis* by sub-cutaneous puncture with a slender, sharp pointed knife, which was entered on the inner side of the leg, between the skin and tendon, and carried flat-wise until the point projected beyond the tendon. It was then turned at right angles to its former position, so as to bring the edge of the blade in the tendon. The foot, which had been previously extended by an assistant, was now flexed so as to render the tendon tense. The knife, with a slight sawing motion, readily divided it, leaving a cut in the skin of not more than $\frac{1}{8}$th of an inch in length. The necessity of this delicate puncture was here insisted upon, in order to insure exclusion of the atmospheric air. The fears of Surgeons when the operation was first proposed, were alluded to. Accidental wounds of the *Tendo Achillis*, accompanied by a free opening of the skin, so that a granulating wound usually resulted, and the tendon, with its low vascularity, had too often, by sloughing, caused permanent lameness, but a sub-cutaneous excision of the fibrous tissue seemed to be as free from hazard as any surgical operation ever proposed. Equally groundless are the fears of traumatic Tetanus, which were formerly entertained. No such result had been reported, and he (Dr. M.) had never witnessed a single uncomfortable symptom following any such operation in his own practice.

The puncture should be made internally to the tendon, so as not to expose the posterior Tibial artery to the point of the knife. The apparatus for restrainining the foot should be applied immediately, as was done in all the cases under consideration, and the patients not allowed to walk under a fortnight. He (Dr. M.) has entirely abandoned the use of Shomeyer's board, and depends entirely upon the shoe which the patient must wear for walking. Shomeyer's plan of allowing the tendon to unite, with the foot in its original position, and stretched at the end of four weeks, had been abandoned entirely by surgeons. Dr. M. enforced strongly the necessity of wearing the apparatus constantly, and that the operation would be of no avail unless it was applied. Indeed, the apparatus alone, independent of the operation, would be sufficient for a cure, but the operation facilitated treatment so much, both as regards pain and time, that no case where the deflection is much, should be undertaken without it. The operation may be performed at almost any age—the rapidity, and, indeed, the prospect of perfect cure is much greater during infantile life. It is better, however, to postpone the operation until the third month. In the adult more numerous incisions are necessary—the plantar fascia usually, and often the Peronial or Tibial tendons. In cases of moderate deflection, even in the adult, the wearing of the apparatus alone is sometimes sufficient. In one case (a girl of 12 years) under Dr. M.'s care, the deformity yielded to treatment by the apparatus alone in about three months. In another patient (a young man about twenty-one years of age), where the axis of the foot was turned inward at an angle of 45°, division of the *Tendo Achillis* alone enabled the apparatus to effect a cure in about four months. It is necessary when the apparatus is to be abandoned that it should be done gradually, wearing it every other day for a month or two, and then every third day, and so on, increasing the interval until it is dropped. The case should be carefully watched by the surgeon, during the progress of the treatment, for it constantly happens, even among intelligent people, that slight derangements of the apparatus will occur, which, being overlooked, will render it of no avail, although conscientiously applied. The mother of the infant patients should be made to promise to keep the apparatus faithfully applied, for the first two or three weeks, during which it may be troublesome to the patient. At the end of this time all inconvenience from wearing it is usually passed by, and the child, instead of crying when it is applied, feels the support, and complains if it be absent.

Fistula in ano.—This patient first observed pain and enlargement in the vicinity of rectum about eight months since, but not subjecting himself to a proper examination, was treated for hemorrhoids by his surgeon. This is a very natural mistake, for the latter disease is so exceedingly common, and produces such a variety of distressing symptoms in the region of the rectum, that unless the aperture is discovered by the patient the general symptoms alone would not lead the surgeon to the diagnosis of a fistula. On examination the patient presented an extensive swelling, with dark redness of skin, almost entirely encircling the rectum. Ten external apertures were counted, freely communicating with one another, which indicated a burrowing of the cellular tissues. An attempt to pass the probe into the rectum was unsuccessful. Dr. Moore remarked that this was by no means conclusive evidence that no such passage exists, for the aperture, which usually occurs immediately above the internal sphincter, may be so small as not to be found, in consequence of the great ulceration of the sub-cutaneous tissue, but the patient had never observed the passage of any gas or fœculent matter. It may, therefore, be a case of *incomplete external fistula.* It must, however, be recollected that fistulæ of this kind are extremely rare, as this disease almost uniformly commences by ulceration of mucous membrane immediately above the internal sphincter muscle. An abscess then forms, which may assume a great size by displacement and absorption of the fatty tissue around the rectum before it can penetrate the dense tissue extending from the verge of the anus to the tuberosity of the Ischium. Fistula in ano rarely recovers without an operation—the incomplete forms may get well without dividing the sphincter. The operation best adapted to this patient will be free incisions, following the line of the fistulæ, which may be converted into on or two, if not entirely cured. Division of the sphincter can be resorted to afterward, if found to be necessary.

Spina bifida.—This was a little patient two months old, with a tumor about two inches in diameter, resulting from a bifurcation of the Lumbar Vertebræ, and effusion. It presented the ordinary reddened and distended condition of the skin, and fluctuation was distinctly perceptible. No hope of benefit, it was remarked, could be expected from surgical procedure. A few cases operated upon have recovered, but too few to justify a favorable inference. One mode of operating consists in the use of a delicate trocar, through which the fluid is drawn off with very little injury ; pressure is then moderately

applied for the purpose of preventing reaccumulation, but great care is necessary in its regulation, for if applied too firmly the functions of the spinal cord and brain are interfered with—if not firmly enough effusion goes on rapidly. Puncture may be repeated frequently, and the skin has been known gradually to contract until the tumor had entirely diappeared and the patient had recovered. These cases, however, are to be looked upon as surgical phenomena, for either from the pressure or the puncture inflammation of the spinal arachnoid membrane may result. Dr. Trowbridge, of Watertown, N. Y., has operated by strangulating the tumor gradually, so as not to destroy the circulation, but gradually approximating the edges of the neck formed by this means, he finally attains adhesion of the internal surfaces, which are kept in apposition, while the tumor either atrophies or sloughs. He reports one case, thus treated, which has lived to adult age, a firm band stretching across as a substitute for bone, and the bones themselves growing gradually across. But unfortunately for the general success of the operation, the spinal cord is sometimes unraveled, as it were, and spread out on the surface of the sac, so that the patient who escapes the dangers of inflammation will die from such an extensive injury to the spinal cord. As a palliative measure it is recommended to apply moderate pressure on the tumor.

MISS TOD, M.D.: OR, A DISEASE OF THE HEART.

FROM THE PORTFOLIO OF A YOUNG LAWYER.

The days of my clerkship were ended; my examination was over; I was admitted; wrote myself "Nehemiah Hubbs, Attorney," put up my new bright little sign, and in my native village began my professional career. No, I did not either; I am mistaken; I *intended* to pursue the honorable practice of the noble profession to which I had dedicated my talents and learning in the place of my birth, but never was a truer word penned than the time honored proverb, "A prophet hath no honor in his own country." I believe if I had remained in the village of Green Briar till my head was white, they would have thought of me as nothing but a boy, and would have feared to trust me. Even after my sign was put up, no-

body called me Mr. Hubbs; I was still "Ne," with old and young, and "Ne" I would have remained to this day, had I remained in Green Briar.

Only one case claimed my attention during the three months of my patient continuance in Green Briar, after being admitted to the bar, and that was the case of an unjustly impounded pig; "feloniously abstracted, your Honor, from the small but secure spot in which my client had trustingly deposited him, and maliciously driven to the public inclosure, called a pound, for the vile purpose, doubtless, of compelling my client in his poverty and destitution, to pay the enormous fee which has been demanded of him, in order to extricate the animal from his unpleasant position, and restore him to the bosom of his family!"

By this I mean the client's family, the pig having none of his own; it was a figure of speech undoubtedly, the family not inhabiting an Irish cabin, but still it rounded off the period, and sounded well to me, as I repeated over and over again my maiden speech, pacing up and down the floor of my little office. In this, my first case, I was successful so far as to rescue the impounded animal, and to save my client from the payment of an unjust demand; but it brought no silver into my pocket, neither, to my surprise, did it seem to bring honor to my name. The eloquence of my speech did not form the theme, as I had fondly hoped it would, of paragraphs in the village papers, or of discussion at the corners of the streets, neither did it bring to my office the rush of clients for which each day I vainly made ready. It was plain that I should never rise to distinction in Green Briar, and so I came to the sudden determination to remove from that pleasant spot, and settle in some great city where nobody knew or ever heard of me; where, above all, there was not a soul to call me "Ne."

There I was more successful, and soon had the opportunity of forming a very advantageous partnership; business increased; money began to come in slowly at first, but after a time more plentifully, and all things seemed prosperous in my outward circumstances. But alas! as we are often told poetically, there is no sweet without its bitter, no rose without its thorn; and trouble came to me in the shape of disease, insidious, and slowly in its approaches at first, long feared and suspected, but at length betraying itself so plainly, that I would blind myself no longer to the truth.

Yes! I was without doubt a victim to disease of the heart, not metaphorically, dear reader, for never had the organ beat with a quicker pulsation at the approach of mortal woman; so far as the gentler sex was concerned, I was perfect stoic; but that there was organic disease about my heart, I could not doubt, and if ever the symptoms disclosed themselves unmistakably, they did so in my case. There was fluttering, palpitation, irregular action, and at length, pain; I could not work; life had lost its zest; the fear of sudden death was ever with me. I could enjoy nothing. If I had anything to leave, or anybody to leave it to, I should have made my will, for I was quite sure now that I should either drop some day lifeless in the street, or that the morning would soon come when the power to rise from my bed would have left me.

I remained at my boarding-house, and found no comfort in anything but my cigar, and my dread disease grew worse and worse. As yet I had consulted no physician, partly, I think, from the apprehension of having my fears confirmed; but as I sat by my window one day, smoking as vigorously as ever, gazing abstractedly across the street, my attention was arrested by a modest little sign upon an opposite blind,—"C. L. Tod, M. D." While thinking whether or not it would be best to make a trial of a physician's skill, a sudden tinge and flutter decided me; yes, I would send for Dr. Tod, and know the worst at once!

Summoning the only male servant belonging to the establishment, I told him to step across and ask Dr. Tod to come and see me as soon as possible.

The boy grinned.

"What are you laughing at?" I asked; "is not Dr. Tod a good physician?"

"Oh, yes sir," he answered. "I believe she is a very good physician, but she ha'nt never tended nobody here!"

"*She!*" said I to myself; "the boy surely has Welsh blood in his veins; they always *she* everything."

The boy soon returned, saying, "the Doctor wasn't to home, sir, but I left your name on the slate."

In the course of the afternoon, as I lay upon the sofa, with my hand pressed upon my head, to still its irregular pulsations, there was a soft tap at my door. "Come in," I called out, and to my surprise, in came the neatest, brightest, most cheerful looking little woman it had been my lot to meet.

"You sent for me, I believe, sir!" she said in a quick, brisk, pleasant way.

"I! No madam; you are laboring under a mistake."

"Ah! I beg pardon," said the little woman, "I found on my slate the name of Mr. Hubbs, number fourteen, Mrs, Grey's boarding-house, with a request that I would call and see him."

"Your slate, madam!" I exclaimed, my astonishment increasing every moment, "you surely are not a—"

"Physician! yes sir;" she interrupted quickly, "I'm a physician,—Dr. Tod."

"Extraordinary!" was all I could say, for though I had heard at a distance of such beings, this was the first introduction to a female practitioner of the Esculapian art. It was rather awkward, but since she had come, I determined to make the best of it, and acquaint the lady doctor with may case.

She felt of my pulse, asked numerous questions as to my symptoms, and then in her quick, bright way, exclaimed:

"Nervous! nervous! that's all, depend upon it! excuse me; sir, but the air of your room—I presume you are much given to smoking.

I plead guilty.

"And how many cigars do you usually smoke in a day?"

"I could not tell, I never counted; as soon as I threw away one I took another, usually."

"Hum! cigar in your mouth pretty much all the time, eh! chew, too?"

Again a reluctant confession was wrung from me.

"I presume you sit up late, smoking all the time?"

"Yes, ma'am, smoking and reading."

"That's it! No disease of the heart at all, sir, nothing but tobacco; it'll make you fancy anything; it'll drive you crazy if you don't take care. Now, will you promise to follow my advice closely, or not? if not, I will take my leave immediately."

I promised, submissive as a lamb.

"In the first place, then, throw away all your cigars and tobacco, and promise to buy no more."

With a sigh given to my sole consolations, I said I would do as she directed.

Many more directions she gave me as to diet, exercise, early hours, &c.; perhaps she saw, too, that cheerful companionship was

one thing I needed, and so she remained awhile talking with great glee, and spirit, about matters and things in general; and promising to call and see me the next morning, she left.

I have not felt so well in a great while, indeed I have not given my heart a thought since the little woman entered my room.

The next morning I found myself watching impatiently for the arrival of my little doctor. She came bright and cheerful as the day before; what a perfect little sunbeam she was! I could not help growing better under her care, and the influence of her cheering presence, and yet I managed to contrive some ache or pain every day, as an excuse for the continuance of her visits.

At length I found that my heart, which had long been quiet and apparently free from disease, began to flutter and palpitate again, but I observed it was only when I heard the little woman's tap at my door, or felt her soft fingers on my wrist. In short, as she had driven disease out of my heart, that little woman herself had walked into it. I could no longer blind myself of the fact; and when she one day told me that I was off the sick list, and out of her hands, I determined that she should not so easily get out of mine.

So I told her that as she had now given ease to my heart in one respect, she must not leave me till she had done so in another, or I should be worse off than I was before.

The little woman looked perplexed.

Then I stated my case, and explained my symptoms a second time, showing her the distressed state of my heart, and she alone could cure it. The former disease she had removed by an occasional visit, the latter could only be cured by her promising to come and take up her abode with me as *resident physician*. She understood me now, and by the way she pressed her hand on her own little fluttering heart, one would have thought that the disease was contagious; and I verily think it was. So now we determined to cure each other, and the next week we are both to apply to a clergyman, who is to form between us a life partnership, as lawyer and physician.

But one thing troubles me, of which I had not thought till now; that it is necessary to have our cards engraved. Married people are generally "Mr. and Mrs. So-and-so," or "Mr. Such-a-one and lady," but will any one please to be so kind as to tell me how I and my little wife are to be designated. Will it be "Mr. and Mrs. Hubbs?" or "Mr. and Mrs. Hubbs, M. D.? or as the ladies are go-

ing ahead so fast in these days of Woman's Rights, will one sink into still lesser insignificance, and shall we be "Dr. Tod and *gentleman!*" or must I drop the name of Hubbs altogether, and become a Tod, too! Some body please to tell me how to have those cards engraved! It is a point that ought to be settled. The ladies are rushing to the pulpit, and even to the bar; very many of them are already in the medical profession, and till a man has made up his mind what position he is to take when he has a minister, or a lawyer, or a doctor, for his wife, let him guard well his heart and above all if that organ or any other is diseased, let him beware how he employs a "lady for a leech."

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He keeps constantly on hand a great variety of instruments, which he invites physicians, surgeons and dentists to call and examine before purchasing elsewhere. He hopes, and is determined to furnish the western profession with as good a quality of instruments as can be found in our largest cities.

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From an acquaintance with Mr. Klott, and an examination of his instruments, I feel fully justified, and indeed I take pleasure, in recommending them in the highest terms. I have had ample opportunities to test the instruments of many of the most celebrated manufacturers of the world, and I have no hesitation in saying that for beauty of finish and fineness of steel and temper, they are not excelled by any I have ever seen. They are equal to Tieman's or Schively's best. R. L. HOWARD.

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APOTHECARY AND DRUGGIST,

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Having enjoyed many years' experience in compounding medicine, he will promptly and very carefully fill Physicians' prescriptions, and

to this branch of business he will give special attention, as he regards it of the highest importance. None but the best medicines will be used for this purpose, and he will strictly observe chemical principles in their combination. As he purposes devoting his time entirely to the occupation of a druggist, he solicits the patronage of medical men and the public generally. [Jan. 1853.

STARLING HALL

EMBRACES THE CENTRAL PORTION AND WEST WING of the College edifice, and was originally designed by its founder, the late LYNE STARLING, Esq., for hospital purposes.

The building has been constructed and furnished with special reference to the comfort and convenience of its inmates, and is now open for the treatment of persons afflicted with any and every variety of *chronic diseases*, susceptible of cure or relief, irrespective of age or sex.

SURGERY.—In the department of Surgery, the ablest counsel, and most competent skill that can be procured, will be made available in every critical and important case. The services of E. M. MOORE, M. D., Professor of Surgery, have been secured.

DISEASES OF FEMALES.—A fine suit of private apartments has been supplied with baths of various kinds, and appropriated to the special accommodation of females who resort to this Institution for the treatment of diseases peculiar to their sex.

EYE AND EAR INFIRMARY.—Apartments have been comfortably and neatly furnished for the care and treatment, medical and surgical, of persons afflicted with diseases of the Eye and Ear.

Every department is abundantly supplied with water for bathing, —the cold, warm and tepid, the shower, sitz and douche baths, will always be in readiness for those who need their application.

MRS. LUCY C. PATTERSON will bestow her kind attentions as Matron of this Institution.

Starling Hall will be under the immediate medical and sanitary direction of R. J. PATTERSON, M. D., who will reside in the building and devote all needed time to the care and treatment of the inmates.

Physicians, as well as those afflicted, are invited to call and examine the Institution,—its fixtures, and our facilities for the treatment of disease.

All letters addressed to the undersigned, will receive prompt attention.

TERMS—For board, washing, furnished apartments, fuel, lights, nursing, and treatment, the charges will range from $6 to $10 per week.

For Surgical operations, a separate charge will be made.

R. J. PATTERSON.

STARLING HALL, Columbus, O, Aug. 17, 1854.

CATALOGUE

OF

DRUGS, PHARMACEUTICAL PREPARATIONS,

AND

MEDICINAL WARES,

OFFERED TO PHYSICIANS BY

BULLOCK & CRENSHAW,

(SUCCESSORS TO SMITH & HODGSON,)

DRUGGISTS AND MANUFACTURING CHEMISTS,

Northeast Corner of Arch and Sixth Streets,

PHILADELPHIA.

MAY 1, 1854.

PREFACE.

In issuing the present edition of their Catalogue, the Subscribers have extended the list of medicines to embrace all the new preparations of importance.

The list of apparatus has received many additions, and the forms of many of the important articles are illustrated by wood-cuts.

Our arrangements enable us to supply all the new preparations as they are presented to the notice of the Profession.

Connected with our establishment we have a laboratory in which our pharmaceutical preparations are made, under our own superintendence, and in strict accordance with the U. S. Pharmacopœia, and our powders are prepared from articles which have been carefully selected by ourselves.

In the list of medicinal wares will be found the prices of glass-stoppered bottles, which, by importing, we are enabled to sell at low rates. These bottles, both by their handsome appearance and greater convenience, are much more suitable for a Physician's office than the cork-stoppered bottles; and where there is not a special order to the contrary, such bottles will be used for putting up their articles, and will be charged at the prices named in the list.

The skeletons priced are from one of the first anatomical establishments in Paris, and will be found of a superior quality; they are so cleaned that the grease will not appear on them after keeping. The list of anatomical preparations, &c., annexed, will, it is hoped, enable Colleges, Professors, and others to supply themselves with such articles without the expense of sending a person to Europe specially for this purpose.

The Magneto-Electric machines, described at the close of the Catalogue, are the most approved instruments in use for applying electricity as a remedial agent. The instrument operates without acids, has received the sanction of the Professors in our Medical Schools, and practitioners of highest eminence.

We have published a catalogue of chemicals, pure reagents and chemical apparatus, illustrated by wood-cuts, which we will be happy to furnish upon application.

All orders will be executed with care and despatch, and packed so as to carry safely to any part of the country, we holding ourselves responsible for all breakage over 5 per cent. of the amount of the order; or for 2 per cent. we will insure against all breakage. The expense of sending goods to the most distant part of the country, by sea or land, with the present low prices of transportation, is very trifling.

Being also the manufacturers of Osborne's superfine American Water Colors, the reputation of which has been long established, we will take pleasure in forwarding price currents to all who may desire them.

BULLOCK & CRENSHAW,
Sixth and Arch Streets, Philadelphia.

May 1, 1854.

DRUGS AND MEDICINAL WARES.

OFFERED TO

PHYSICIANS

BY BULLOCK AND CRENSHAW,

N. E. CORNER ARCH AND SIXTH STS., PHILADELPHIA.

ACETONE (pyroxilic spirit)	$2 00 per	lb.*
ACETUM, Opii	1 50	lb.
Scillæ	50	lb.
ACID: Acetic: No. 8	28	lb.
Arsenious, Pure	25	lb.
Arsenic:	25	oz.
Benzoic:	40	oz.
Citric:	2 00 Scarce	lb.
Gallic:	1 50	oz.
Muriatic: Med: Pure	12	lb.
Nitric: Med: Pure	25	lb.
Nitro-muriat:	25	lb.
Phosphoric: Glac:	50	oz.
" Dilut:	1 00	lb.
Prussic: U. S. P. in oz. Stop. Bot.	31	oz.
Pyroligneous	25	lb.
Sulphuric:	06	lb.
" Aromatic:	50	lb.
Oxalic:	50	lb.
Tannic:	31	oz.
Tartaric:	Scarce 75	lb.
ACONITINE	15	gr.
ALCOHOL: U. S. P:	62 to 75	gall.
Absolute	50	pint.
ALUM	08	lb.
ALOE, Capens:	25	lb.
" Pulv:	38	lb.
Socotrina	63	lb.
" Pulv:	75	lb.
AMMON: Carb:	30	lb.
Murias	25	lb.
AMMON: Nitras	1 00	lb.
Phosphas	1 50	lb.
ANNATTO	50	lb.
ANTIM: et Potass: Tart:	62	lb.
Sulph: Pulv:	20	lb.
" Kermes:	12	oz.

*The pounds and ounces referred to in this Catalogue are all avoirdupois; for convenience we have used the term dr. for the 1-8th of an avoirdupois ounce.

AQUA: Ammon: fff.	$0 20	per pt.
" Concent.	50	pint.
Destill:	06	pint.
Fortis	12	lb.
Rosæ	15	pint.
ARGENTI NITRAS, Cryst:	1 25	oz.
" " Fus:	1 25	oz.
" " Oxid:	2 00	oz.
ARSENICUM (pure sublimed)	25	oz.
" Iodid:	1 50	oz.
ARSENICI SOLUT: (Fowler's)	50	pint.
" " (Donovan's)	1 00	pint.
ASPARAGIN	1 00	dr.
ASSAFŒTIDA	38	lb.
ATROPIA	15	gr.
BACCÆ JUNIPERI	25	lb.
Pip: Nig: Pulv:	20	lb.
BALSAM: Canada	88	bottle.
Copaibæ	62	lb.
" Solid:	1 00	lb.
" Capsules	75, 1 50, 2 00	doz.
Peruv:	25	oz.
Sulphur:	1 00	lb.
Tolu:	1 25	lb.
BEBEERIN	50	dr.
Sulph:	38	dr.
BISMUTH: Subnit:	12	oz.
Valerian:	50	dr.
BLUE MASS: vid: Pil: Hydrarg:		
BRUCIA	50	dr.
Sulph:	50	dr.
BURGUNDY PITCH	16	lb.
CADMII Sulph:	1 50	oz.
CAFFEINE	1 00	dr.
CALCIS Chlorid:	10	lb.
Carb: Præcip: Eng:	38	lb.
" Præp:	08	lb.
CALCII Chlor: Pure	06	oz.
CALCIS PHOSPH: Præc:	50	lb.
CALOMEL vid: Hydrag: Chlor: Mit:		
CAMPHORA	50	lb
CANTHARIDES	(scarce)	
Pulv:	(scarce)	
CANTHARIDIN TISSUE (Brown's)	1 50	can.
Dressing Tissue "	75	can.
CAPSICI AFRIC: Pulv:	50	lb.
CARBO LIGNI, Pulv: (Willow)	25	lb.
CARRAGEEN	25	lb.
CARYOPHYLLUS	38	lb.
CASTOREUM RUSSIC:	1 25	oz.
CATECHU	25	lb.
Pulv:	38	lb.
CERA ALBA	60	lb.
CERATUM Cantharidis	1 50	lb.
Cetacei	50	lb.
Plumbi S'act	50	lb.

CERATUM Resinæ	$0 50	per lb.
" Comp:	50	lb.
Sabinæ	50	lb.
Simplex	50	lb.
Zinci Carb:	50	lb.
CETACEUM	56	lb.
CHIMAPHILA	25	lb.
CHINOIDINE	75	oz.
CHLOROFORM	1 50	lb.
CINCHONINE	1 25	oz.
CINCHON: Sulph:	1 25	oz.
COCCINELLA	12	oz.
CODEINE	3 00	dr.
COLOCYNTHUS	1 00	lb.
COLLODION, in 1 oz. Stop. Bot.	2 00	doz.
Cantharidal, in ½ oz. Stop. Bot.	2 00	doz.
COD-LIVER OIL, Vid: Ol: Jecoris:		
CONFECT: Rosæ	50	lb.
Opii	10	oz.
Sennæ	50	per lb.
CONIA	2 00	dr.
CORTEX Aurantii	15	lb.
Angusturæ	30	lb.
Canellæ	20	lb.
" Pulv:	30	lb.
Cascarillæ	25	lb.
Cassiæ	50	lb.
" Pulv:	62	lb.
Cinchon: Flav:	1 75	lb.
" " Pulv:	2 00	lb.
" Rub:	1 50	lb.
" " Pulv:	1 75	lb.
Cinnam: (Ceylon)	12	oz.
Mezerei	25	lb.
Prun: Virg:	20	lb.
Punic: Gran: Fruct:	38	lb.
" " Rad:	50	lb.
Quassiæ Simarub:	75	lb.
Sasaf: Rad:	15	lb.
Ulmi	15	lb.
" Pulv: (Fine)	25	lb.
Ulmi, Pulv: (Coarse)	20	lb.
Winteræ Aromat:	75	lb.
Xanthoxyl:	38	lb.
CREASOTUM, in 1 oz. Stop. Bot.	38	oz.
CROCUS SATIVUS	62	oz.
CUBEBA	(scarce) 50	lb.
Pulv:	(scarce) 62	lb.
CHELTENHAM SALT	3 00	doz.
CUPRI SULPHAS	15	lb.
CUPRI DINIODID:	75	oz.
DELPHIA		
DIGITALINE	25	gr.
DOLICHOS PRURIENS (Cowhage)	1 00	oz.
ELATERIUM (Clutterbuck's)	88	dr.
ELIXIR OPII (McMunn's)	2 25	doz.

ELIXIR OPII (Crew's)	$2 00	per doz.
EMETINE	2 50	oz.
EMPLAST: Adhesiv:	38	lb.
Ammoniac:	75	lb.
" C. Hydrarg:	1 25	lb.
Assafœt:	1 25	lb.
Belladon:	1 50	lb.
Calefac:	75	lb.
Cantharid:	1 50	lb.
Gaban: Comp:	50	lb.
Hydrarg:	1 00	lb.
Logani	50	lb.
Myrrhæ	1 25	lb.
Opii	2 00	lb.
Plumbi	38	lb.
Resinæ	38	lb.
Roborans	38	lb.
Saponis	50	lb.
ERGOTA	1 25	lb.
Pulv:	1 50	lb.
ERGOTINE	65	dr.
ESS: MENTH: PIP:	75	pint.
ETHER Acetic	60	pint.
Chloric	50	pint.
Sulphuric	30	pint.
" Letheon	38	pint.
EXTRACT: Aconiti, Eng:	25	oz.
Anthemid:	12	oz.
Belladon:	25	oz.
Cannab: Ind: Eng:	3 00	oz.
Cinchon: Præcip: in oz. Pots	75	oz.
Cinchon: Fluid:	2 50	lb.
Colchici: Acet:	50	oz.
Coloc: Comp:	2 50	lb.
Coloc: Simp:	50	oz.
Conii, Eng:	12	oz.
Cotyledon: Umbilic:	1 00	oz.
Cubeb: Fluid:	31	oz.
Digital:	25	oz.
Diosmæ Fluid:	1 50	lb.
Dulcamaræ,	19	oz.
Glycyrrhizæ Calab:	30	lb.
" Pulv:	50	lb.
Gentianæ	50	lb.
Hellebor: Nig:	25	oz.
Hyoscyami, Eng:	25	oz.
Jalapæ Alc.	25	oz.
Jugland:	12	oz.
Krameriæ (by cold displacement),	20	oz.
Monesiæ	2 00	oz.
Nuc: Vom: Alc:	50	oz.
Opii Acet:	1 00	oz.
" Aquos:	1 00	oz.
Pareiræ Brav:	50	oz.
Polygalæ Senegæ	50	oz.
Quassiæ	50	oz.

EXTRACT: Rhei	$0 25	per oz.
" Fluid	2 00	lb.
Sabinæ	50	oz.
Sarsap: Alc:	38	oz.
" Fluid: Com:	6 00	doz.
Sennæ " "	1 50	lb.
Spigeliæ " "	1 50	lb.
Stramonii	25	oz.
Secale Cornut: (without oil)	50	oz.
Taraxaci, Eng:	12	oz.
Valerian Fluid:	1 50	lb.
" Solid: (Etherial)	50	oz.
FECULA MARANTA BERMUDA	50	lb.
FARINA Avenæ Beth:	10	lb.
Sem: Lini	12	lb.
FERRI Arsenias	75	oz.
Ammon: Chlor:	06	oz.
Bromid:	1 00	oz.
Carb: Præcip:	30	lb.
" Vallet's	75	lb.
Citras	20	oz.
Ferrocyanuret:	12	oz.
Iodid:	75	oz.
Lactas	38	oz.
Limatura	12	lb.
Oxid: Hydrat:	50	lb.
Oxid: Nig:	10	oz.
Pernit: Solut:	75	lb.
Phosphas	60	lb.
Et Magnes: Citras	38	oz.
Et Potass: Tart:	75	lb.
Et Quin: Citras	1 25	oz.
Et Potass: Tart: (in Scales)	20	oz.
Sesquichlor:	38	oz.
Sulphas Pur:	25	lb.
Tart: Ammon	20	oz.
Tannas	62	oz.
Valerianas	3 00	oz.
FERRUM subtillissim:	25	oz.
" per Hydrogen (Quevennes)	50	oz.
" " " " French,	1 00	oz.
FLORES ANTHEM:	50	lb.
Arnicæ	50	lb.
Lavand:	25	lb.
Rosæ Gallic:	1 50	lb.
FOLIA Aconiti, Eng:	1 00	lb.
Belladon: "	1 00	lb.
Conii "	1 00	lb.
Digitalis "	1 00	lb.
Digital: Ang: Pulv:	1 25	lb.
Diosmæ Crenat:	75	lb.
Hyoscyam: Eng:	1 00	lb.
Lobeliæ	50	lb.
Matico	12	oz.
Sabinæ, Eng:	1 00	lb.
" " Pulv:	1 25	lb.

FOLIA Sennæ Alex.	$0 38	per lb.
" " Pulv:	50	lb.
Uvæ Ursi	25	lb.
FUCUS HELMINTHOCORTON	75	lb.
GALLA ALEPPO	50	lb.
" Pulv:	65	lb.
GLYCERINE	15	oz.
GRANVILLE'S LOTION	50	pint.
GUM: Acac: No. 1.	80	lb.
" No. 2.	60	lb.
" Pulv:	75	lb.
Ammoniac:	50	lb.
Benzoin:	75	lb.
Elemi:	50	lb.
Galban: Cobat:	1 00	lb.
Gambogia	1 25	lb.
" Pulv:	1 50	lb.
Guaiacum	50	lb.
Myrrha Turc:	68	lb.
" Pulv:	88	lb.
*Scammon: (Virgin)	1 00	oz.
" " Pulv:	1 00	oz,
Tragacanth:	75	lb.
Styrax	62	lb.
GUTTA PERCHA		
HIERA PICRA	75	lb.
HOOPER'S PILLS	75	doz.
HORDEUM PERLAT:	12	lb.
HYDRARGYRUM	1 50	lb.
Ammon:	12	oz.
Chlor: Mit:	1 25	lb.
Chlor: Mit: Aug:	1 75	lb.
Bichlor: Corros:	12	oz.
Bicyanid:	50	oz.
Cum Creta	12	oz.
Iodid: Proto:	75	oz.
" Bin:	75	oz.
Nitras Per: (acid)	25	oz.
Oxid: Rub:	12	oz.
Phosphat:	75	oz.
ICHTHYOCOLLA Americana	1 00	lb.
Russic:	50	oz.
IODINUM (Resublimed in 1 oz. Stop. Bot.)	75	oz.
KINO	1 00	lb.
LACTUCARIUM	1 00	oz.
LAPIS DIVINIS	25	oz.
LICHEN Island:	15	lb.
LIGNUM Guaiaci Rasp:	12	lb.
Quass:	12	lb.
Santal: Rub:	12	lb.
LINTEUM	1 25	lb.
LIQ: Ammon: Acet:	25	lb.
Plumb: S: Acet:	50	pint.

* Aleppo Scammony has become so impure we do not price it. We had occasion to test a number of samples, and no one contained five per cent. of Virgin Scammony.

LIQ: Donovani	$1 00	per pint.
Ferri Ternitras	75	pint.
Opii Sedativ:	1 00	pint.
Potass:	25	pint.
" Arsen: (Fowler's)	50	pint.
Sodæ Chlorinata (Labarraque's),	38	pint.
LUNAR CAUSTIC, Vid: Argent: Nit:		
LUPULINA	20	oz.
LYCOPODIUM	1 00	lb.
MACIS	1 50	lb.
MAGNES: Calc: Opt: Ang:	75	lb
" " " in lb. bottles	1 00	lb.
Carb:	30	lb.
" Sm: Squares	56	lb.
Citras: (Effervescing solution)	2 25	doz.
*Husband's	4 00	doz.
Henry's	8 00	doz.
Sulphas	06	lb.
MANGANESII Carb:	38	oz.
Chlorid:	38	oz.
Iodid: (solut:)	25	oz.
Oxid: (black)	12	lb.
Oxid: (Red)	38	oz.
Phosph:	38	oz.
Sulph:	25	oz.
Tart:	25	oz.
MANNA, Small Flake	scarce.	
Large Flake	scarce.	
MANNITE	25	oz.
McMUNN'S ELIXIR	2 25	doz.
MECONIN		
MEDULLA Sassaf:	50	oz.
MEL ROSÆ	50	lb.
MONARDINE	50	dr
MORPHIA Pure Alkaloid	75	dr.
MORPHIÆ Acetas	4 00	oz.
Murias	4 00	oz.
Sulphas	4 00	oz.
Tannas	75	dr.
Valerianas	1 00	dr.
MOSCHUS		
MUCUNA (Cowhage)	1 00	oz.
MYRISTICA	1 50	lb.
NAPHTHA	2 00	lb.
NARCOTINA	75	dr.
NUCIS VOM: Pulv:	38	lb.
OLEUM Amygd: Amar:	1 25	oz.
" Dulc:	62	lb.
Anethi Fœniculi	20	oz.
Anisi	20	oz.
Aurantii Cort:	20	oz.
Bergamii	38	oz.
Cari	25	oz.

* Husband's magnesia has been long used by the Profession in this city, and is preferred to Henry's.

OLEUM Cajuputi	$0 25	per oz.
Camphoræ	25	oz.
Caryophylli	25	oz.
Cassiæ	31	oz.
Chenopodii	38	oz.
Copaibæ	12	oz.
Croton: Tiglii	50	oz.
Cubebæ	38	oz.
Ergotæ	1 00	oz.
Gualtheriæ	38	oz.
Hedeomæ	20	oz.
Jecoris Aselli (in pint bottles)	5 00	doz.
Juniperi	75	lb.
Lavandulæ	12	oz.
Limonis	25	oz.
Menthæ Piperitæ	38	oz.
" Sativ:	25	oz.
Monardæ	20	oz.
Myristicæ Ess:	75	oz.
Olivæ Opt:		doz.
" Com:	25	pint.
Origani	75	lb.
Ol Pimentæ	1 00	oz.
Piper: Nig:	1 00	lb.
Pini Canadensis	75	lb.
Ricini	25	lb.
Rosmarini	75	lb.
Sabinæ	12	oz.
Sassafras	10	oz.
Succini Rect	1 00	lb.
Tanaceti	20	oz.
Terebinthinæ	10	pint.
Valerianæ	1 25	oz.
OPIUM Turc: (variable)	5 00	lb.
" Pulv:	50	oz.
" Denarcot:	75	oz.
OPODELDOC, Liquid	1 00	doz.
Solid	1 00	doz.
OX GALL, Inspissated	31	oz.
PAPAV: Capsul:	38	lb.
PIMENTA	38	lb.
PIMENTÆ Pulv:	50	lb.
PETROL: Barbadens:	25	lb.
PIL: HYDRARG: U. S. P.	1 25	lb.
PIPERINE	75	oz.
PIX Abietis	16	lb.
Canadensis	50	lb.
PLUMBI Acetas	20	lb.
Iodid:	1 00	oz.
Nitras	50	lb.
POTASSA Fusa (Caustic)	12	oz.
POTASSÆ Acetas	12	oz.
Arsenias	50	oz.
Arsenis	12	lb.
Bicarb: Cryst:	37	lb.
Bitart: Pulv:	(scarce) 50	lb.

POTASSÆ Carb: (Sal: Tart:)	$0 15	per	lb.
Chloras	75		lb.
Citras	(scarce) 2 00		lb.
Nitras	12		lb.
Sulphas	16		lb.
Sulphas Pulv:	25		lb.
Tart:	50		lb.
POTASSII Bromid:	1 00		oz.
Cyanid:	12		oz.
Ferrocyan:	06		oz.
Ferricyan:	12		oz.
Iodid:	50		oz.
Sulphuret:	50		lb.
PREPARED CHALK (See Calcis Carb:)			
PULVIS Antimonialis	06		oz.
Aromat:	25		oz.
Doveri	20		oz.
Seidlitz	38		lb.
QUINIÆ Acetas	4 50		oz.
Arsenias	6 00		oz.
Citras	4 50		oz.
Ferrocyan:	4 50		oz.
Iodid:	6 00		oz.
Lactas	6 00		oz.
Murias	4 50		oz.
Sulphas	3 25		oz.
Tannas	4 50		oz.
Valerianas	1 00		dr.
RADIX Aconit. Contus	1 00		lb.
Actææ Racemos:	30		lb.
Arnicæ	1 00		lb.
Belladonnæ	1 50		lb.
Colchici, Eng:	50		lb.
Colombæ	20		lb.
" Pulv:	38		lb.
Curcumæ Opt: (Turmeric)	25		lb.
Gentianæ	12		lb.
Gent: Contus	20		lb.
" Pulv:	30		lb.
Geranii Maculat:	50		lb.
Glycyrrhizæ	10		lb.
" Pulv:	25		lb.
Hydrastis Canadensis	50		lb.
Ipecac:	(scarce)		lb.
" Pulv:	(scarce)		lb.
Irid: Florent:	25		lb.
" " Pulv	38		lb.
Jalapæ	88		lb.
" Pulv:	1 00		lb.
Krameriæ	38		lb.
" Contus	50		lb.
" Pulv:	62		lb.
Pareiræ Bravæ	1 25		lb.
Rhei E. I——(best)	(scarce) 1 75		lb.
" Pulv:	(scarce) 2 00		lb.
Russic:	38		oz.

RADIX Rhei Russic: Pulv		$0 50	per oz.
Sanguinariæ		50	lb.
" Pulv:		75	lb.
Sarsap: Contus:		28	lb.
Scillæ		25	lb.
" Pulv:		62	lb.
Senegæ	(scarce)		lb.
Serpentariæ	(scarce)	40	lb.
" Pulv:		50	lb.
Spigeliæ	(scarce)	40	lb.
" Pulv:		50	lb.
Stillingiæ		1 15	lb.
Taraxaci		30	lb.
Tormentillæ		38	lb.
Valerianæ, Eng.		50	lb.
" " Pulv:		75	lb.
Zingib: Jamaic:		50	lb.
" " Pulv:		62	lb.
RESINA JALAPÆ		1 00	oz.
SACCHARUM LACTIS		60	lb.
SAGO PERLAT:		10	lb.
SAL: Rochelle:		38	lb.
Prunelle		38	lb.
SALACINE		75	oz.
SANGUIS DRACONIS		1 50	lb.
SANTONINE		1 75	oz.
SAPO Hispan:		18	lb.
Windsor (Brown)		12	cake.
SEIDLITZ POWDERS, in Tin Boxes		2 25	doz.
MIXTURE		38	lb.
SEMINA Anisæ		20	lb.
Cardam:		1 50	lb.
Cari		20	lb.
Chenopod: Anthelm:		25	lb.
Colchici		50	lb.
Coriandri:		15	lb.
Cydoniæ		25	oz.
Fœniculi		15	lb.
Lini		08	lb.
Sinapis		15	lb.
" Pulv: Eng:		38	lb.
SODÆ Acetas		12	oz.
Arsenias		50	oz.
Arsenis		12	oz.
Biboras		38	lb.
Bicarbonas		12	lb.
Carbonas		06	lb.
Nitras Ref:		25	lb.
Phosphas		50	lb.
et Potassæ Tart:		28	lb.
Sulphas		06	lb.
SOLANUM DULCAMARA		25	lb.
SP: Ammon:		25	pint.
" Arom:		50	pint.
Æther: Nit:		20	pint.
" Sulph: Comp:		30	pint.

SP: Lavand: Comp:	$0 50	per pint.
Vini Gallic: (4th proof French Brandy)	3 00	gal.
Lavand: Simp:	50	pint.
SPONGIA (Prepared for Surgical use)	various prices	
STRYCHNIA	75	dr.
Sulph:	75	dr.
SULPHUR Rotund:	06	lb.
Sublimat:	10	lb.
Iodid:	75	oz.
Sublimat: Lot:	15	lb.
Præcip: Pur:	75	lb.
SYRUPUS Althææ	75	lb.
Allii	75	lb.
Acaciæ	50	lb.
Aurantii	50	lb.
Digitalis	50	lb.
Ferri Iodid:	1 50	lb.
" Citratis	1 50	lb.
Gallæ	50	lb.
Ipecac:	50	lb.
Limonis	3 00	doz.
Lobeliæ	50	lb.
Marrub Comp:	50	lb.
Morph: Sulph: (Jackson's)	75	lb.
Papaveris	50	lb.
Prun: Virg:	50	lb.
Rhamni Cathart: Ang:	1 00	lb.
Rhei	50	lb.
" Aromat:	50	lb.
Sarsap: Comp:	50	lb.
Scillæ	50	lb.
" Comp:	50	lb.
Simplex	25	lb.
Sennæ	50	lb.
Senegæ	50	lb.
Tolutani	50	lb.
Syrupus Zingiberis	50	lb.
TANNIN	31	oz.
TAPIOCA	25	lb.
TARTAR EMETIC (Vid: Ant: et Pott Tart:)		
TEREBINTHINA Venet:	30	lb.
TEST: OST: PRÆP:	75	lb.
TINCTURA Aconiti Fol:	50	pint.
" Rad: U. S. P.	10	oz.
" " (Flemings)	12	oz.
Aloes	50	pint.
" Comp;	50	pint.
" et Myrrhæ	50	pint.
Assafœtidæ	50	pint.
Arnicæ	50	pint.
Aurantii	50	pint.
Belladonnæ	50	pint.
Benzoin: Comp:	50	pint.
Buchu	50	pint.
Colombæ	50	pint.
Camphoræ	50	pint.

TINCTURA Cannab: Ind:	$0 12	per oz.
Cantharidis	50	pint.
Capsici	50	pint.
Cardam: Comp:	50	pint.
Castorei	1 50	pint.
" Ammon:	2 00	pint.
Catechu	50	pint.
Cinchonæ	75	pint.
" Comp:	75	pint.
Conii	50	pint.
Cubebæ	50	pint.
Digitalis	50	pint.
Ferri: Acet:	50	pint.
" Amar	50	pint.
" Chlorid:	50	pint.
Matico	06	oz.
Gent: Com:	50	pint.
Guaiaci	50	pint.
Guaiaci Ammon:	75	pint.
Humuli	50	pint.
Hyoscyami	50	pint.
Iodini	75	pint.
" Lugol's	75	pint.
Jalapæ	50	pint.
Kino	50	pint.
Krameriæ	50	pint.
Lobeliæ	50	pint.
Lupulinæ	50	pint.
Myrrhæ	50	pint.
Nuc: Vomicæ	50	pint.
Opii	75	pint.
" Acet:	1 00	pint.
Opii Camph:	50	pint.
Quassiæ	50	pint.
Rhei	50	pint.
" et Aloes	50	pint.
" et Gentianæ	50	pint.
Rhei et Sennæ	75	pint.
Sanguinariæ	50	pint.
Saponis Camph:	50	pint.
Scillæ	50	pint.
Sennæ Comp:	50	pint.
Serpentariæ	50	pint.
Tolutani	50	pint.
Valerianæ	50	pint.
Valer: Ammon:	75	pint.
Zingiberis:	50	pint.
TROCHES Menth: Pip:	75	lb.
Soda Carb:	75	lb.
Wistari, in Boxes	1 00	doz.
Zingiberis	75	lb.
UNGUENTUM Acid: Nitric:	50	lb.
Althææ	75	lb.
Aq: Rosæ (with Glycerine)	75	lb.
Cantharid: (for dressing Blisters)	1 00	lb.
Cucumis	1 00	lb.

UNGUENTUM Hufeland	1 00	per lb.
Hydrarg: U. S. P. (half Mercury)	1 25	lb.
" Nitrat:	50	lb.
Picis Liquidæ	50	lb.
Sabinæ	50	lb.
Simplex	50	lb.
Stramonii	50	lb.
Sulphuris	50	lb.
VACCINE VIRUS	1 00	scab.
VERATRIA	88	dr.
VINUM Album	2 00	gall.
Antimonialis	50	pint.
VINUM Aromat:	1 00	pint.
Colchici Rad:	75	pint.
" " (English from recent root)	1 50	pint.
" Sem:	75	pint.
Ferri	50	pint.
Ipecac:	75	pint.
Opii	1 00	pint.
Picis	1 25	gall.
Rub:	2 00	gall.
Secale Cornut:	75	pint.
YEAST POWDERS, in Tin Boxes	2 25	doz.
ZINCI Acetas	12	oz.
Carb: Præcip:	12	oz.
Cyanid:	75	oz.
Chlorid:	25	oz.
Iodid:	1 00	oz.
Oxid:	06	oz.
Sulphas	25	lb.
Valerianas	50	dr.

MEDICINAL WARES,

PHYSICIANS' APPARATUS, ETC.,

FOR SALE BY

BULLOCK & CRENSHAW,

N. E. CORNER ARCH AND SIXTH STREETS, PHILADELPHIA.

ADHESIVE PLASTER,	$0 25 per yard.
" " in cans of 2 yards ½ width,	0 50 per can.
BED PANS, round and slant, Queensware,	1 25 each.
" " India rubber, for inflation,	2 25 each.

Fig. 1.

BLEEDING BOWLS, graduated (Fig. 1), . 0 75 each.

BOTTLES, Narrow Mouth, with Stoppers accurately ground,—

1 gallon,	7 00 per doz.
half gallon,	4 00 " "
quart,	2 38 " "
pint,	1 75 " "
half pint,	1 37 " "
4 oz.,	1 12 " "
2 oz.,	1 00 " "
1 oz.,	0 90 " "
half oz.,	0 90 " "

BOTTLES, Wide Mouth, with Glass Stoppers,—

gallon,	9 00 " "
half gallon,	4 50 " "
quart,	2 75 " "
pint,	2 00 " "
half pint,	1 50 " "
4 oz.,	1 25 " "
2 oz.,	1 00 " "
1 oz.,	0 90 " "
half oz.,	0 90 " "

BOTTLES, Strong Green Glass, with Glass Stoppers, for Acids,—
half gallon, ... $0 25 each.
quart, ... 0 19 "
pint, ... 0 15 "
half pint, ... 0 12 "
BOTTLES, Assorted, in Gross Boxes, see Vials.
BOXES, Chip Nested, 12 Nests in a paper, . . 0 15 paper.
" Paper, Chip Nested, English, . . 0 20 "
BOUGIES, Elastic, ... 1 25 per doz.
" " with Ivory tips, . . . 1 50 " "
" Metallic, ...
" Elastic (English, very superior), . . 0 75 each.
" Gutta Percha, French, ... 0 25 "
" Catgut, ... 0 12 "
" Wax, ... 0 12 "

Fig. 2.

BREAST EXHAUSTERS,
Elastic (Fig. 2), . $1 00 each.

Fig. 3.

BREAST PIPES (Fig. 3), $0 25 each.

BREAST PUMPS, ... $2 50 each.
BRUSHES, Cam. Hair, for Throat, . . . 60 to 1 00 per doz.
CATHETERS, Elastic, ... 1 25 " "
" " with Ivory tips, ... 1 50 " "
" " Silver—Male, ... 1 25 each.
" " " Female, . . . 0 75 "
" " (English, very superior), . 0 75 "
" Gutta Percha, French, ... 0 25 "
COLLODION, in oz. Stop. Bot., ... 2 00 per doz.
CORKS, Bottle and Vial, all sizes, ...

Fig. 4.

CORK PRESSES (Fig. 4), $0 75 each.

Fig. 5.

CORK-SCREW (Fig. 5), . . 0 50 each.

Fig. 6.

CORK-SCREW (Fig. 6), . . 0 38 each.

Fig. 7.

CORK SCREWS (Fig. 7), . . . 0 25 each.

COURT PLASTER, ... 0 25 per doz.

Fig. 8.

CUPPING GLASSES (Fig. 8) . . 1 25 per doz

DOMESTIC INSTRUMENT for Self-Injection (Maws), 2 50 each.

EAR TUBES, Elastic (Horn mounted), . . . $1 75 each.
" " " (Ivory mounted), . . . 3 00 "

Fig. 9.

EYE-GLASSES, Green and White Glass (Fig. 9), . . . 0 20 each.

Fig. 10.

EVAPORATING DISHES, Fine Porcelain (Figure 10),

No. 00.	Contents 1 oz.,	. . . .	$0 12
0.	" 1½ oz.,	. . . .	0 15
1.	" 2 oz.,	. . . .	0 20
2.	" 3 oz.,	. . . .	0 25
3.	" 4 oz.,	. . . .	0 30
4.	" 5 oz.,	. . . .	0 35
5.	" 6 oz.,	. . . .	0 45
6.	" 12 oz.,	. . . .	0 55
7.	" pint,	. . . .	0 70
8.	" 1½ pints,	. . . .	0 90
9.	" 3 pints,	. . . .	1 50
10.	" 6 pints,	. . . .	2 25
11.	" 8 pints,	. . . .	3 00

EVAPORATING DISHES, Berlin Porcelain, 2d quality:—

No. 00.	Contents 2 oz.,	. . . .	0 12
0.	" 3 oz.,	. . . .	0 15
1.	" 4 oz.,	. . . .	0 18
2.	" 8 oz.,	. . . .	0 25
3.	" pint,	. . . .	0 35
4.	" 1½ pints,	. . . .	0 50
5.	" quart,	. . . .	0 75
6.	" 3 pints,	. . . .	1 00
7.	" half gallon,	. . . .	1 15
8.	" gallon,	. . . .	1 37
9.	" 1½ gallons,	. . . .	1 62
10.	" 2 gallons,	. . . .	2 00

EVAPORATING DISHES, Small, in Nests, . . . 0 75
FINGER-STALLS of Gum Elastic, ... 0 75 per doz.
FILTERING PAPER, ... 0 25 per quire.

Fig. 11.

FUNNEL GLASS (Fig. 11):—

Half gallon, . . .	$0 37
Quart, ...	0 25
Pint, ...	0 20
Half pint, ...	0 18
4 oz., ...	0 15
2 oz., ...	0 12
1 oz., ...	0 12

Fig. 12.

FUNNELS, Porcelain, for Filtering Hot Liquids (Fig. 12):—

No. 4.	Half gallon,	$1 25
3.	Quart,	1 00
2.	Pint,	0 75
1.	Half pint,	0 62
0.	4 oz.,	0 38

Fig. 13.

FUNNELS, Porcelain, Perforated, for Draining (Fig. 13):—

No. 4.	Half gallon,	$1 25
3.	Quart,	1 00
2.	Pint,	0 75
1.	Half pint,	0 62
0.	4 oz.,	0 40

Fig. 14.

FUNNELS, Porcelain, with large holes for rapid Filtration (Fig. 14):—

No. 3.	Quart,	$1 00
2.	Pint,	0 75
1.	Half pint,	0 50
0.	4 oz.,	0 38

Fig. 15.

FUNNELS, WEDGWOOD WARE (Fig. 15):—

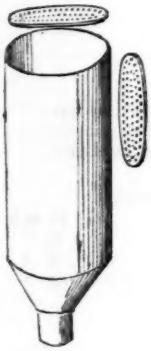
No. 3.	½ pint,	$0 38
5.	pint,	0 62
7.	quart,	1 12

Fig. 16.

FUNNELS, GLASS, with Stop Cock for separating fluids of different densities (Fig. 16):—

½ gall.	$3 00
quart,	2 50
pint,	2 00
½ pint,	1 75

Fig. 17.



FUNELS, QUEENSWARE, with Perforated Diaphragms for preparing Tinctures and Infusions by displacement (Fig. 17):—

½ gall.	$1 50 each.
quart,	1 25 "
pint,	1 00 "

GALLIPOTS, 1 to 4 oz. four in a nest, $0 08 nest.
GLASS, English, very thin, for Microscopic Preparations,
GOLD BEATERS, Skin, 0 75 doz.

Fig. 18.

GRADUATED MEASURES, Glass, accurate (Fig. 18):—

16 oz.	$1 25 each.
12 oz.	1 00 "
8 oz.	0 88 "
6 oz.	0 75 "
4 oz.	0 62 "
3 oz.	0 56 "
2 oz.	0 50 "
1 oz.	0 37 "

Fig. 19.

Minim (Fig. 19), $0 50 each.

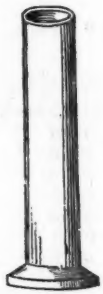
HAIR GLOVES, $1 00 pair.
HAIR BELTS, 1 00 each.
HEIFERS' TEATS, 1 25 doz.
HORN SCOOPS, 1 50 "

Fig. 20.

HYDROMETERS, Baume's Scale (Fig. 20). These Hydrometers are made with great care by J. G. Grenier, a celebrated manufacturer in Berlin, and their entire accuracy may be relied on.

For acids, syrups, and liquids heavier than water, graduated from	0° to 68°,	$3 25 each.
For Spirits,	10° to 49°,	3 25 "
For Ethers,	30° to 65°,	3 25 "
For Acids, Alcohol, and Ether, a good article,		1 00 "

Fig. 21.



HYDROMETER JARS, for floating Hydrometers (Fig. 21), ... $0 50 to $0 75

INFUSION MUGS, pint, ... $1 25

Fig. 22.

INJECTING BAGS, elastic (Fig. 22):—

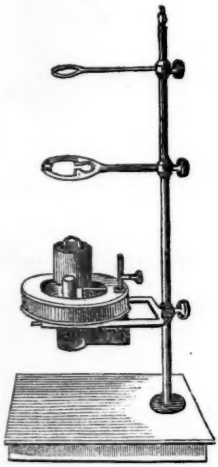
Female,	$1 25
Male,	1 00

INHALERS, for administering Chloroform,		$0 75
" "	Iodine,	0 38
ISINGLASS PLASTER (Husband's),		0 75 yd.
ISSUE PEAS,		0 38 hun'd.

JARS, QUEENSWARE, Covered, English:—

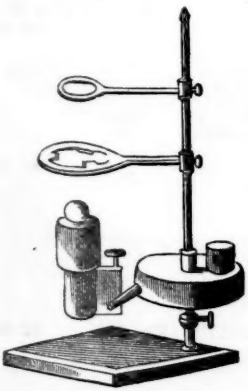
quart,	$0 38 each.
pint,	0 18
half-pint,	1 25 doz.
4 oz.	1 00
2 oz.	0 88
1 oz.	0 75
LABELS, Latin in books for shop furniture,	1 50
" " for specimens in Materia Medica,	0 50

Fig. 23.



LAMPS, SPIRIT, Berzelius' pattern (Fig. 23), ... $5 50

Fig. 24.



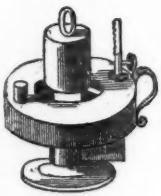
LAMPS, SPIRIT, Rose's pattern (Fig. 24), ... $5 50

Fig. 25.

LAMPS, SPIRIT, Glass, with Cap (Fig. 25):—

6 oz.	$0 50
2 oz.	0 37

Fig. 26.

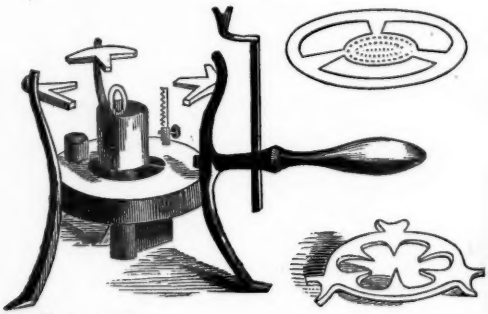


LAMPS, SPIRIT, with Screw to adjust the wick (Fig. 26), ... $4 50

Fig. 27.

LAMPS, SPIRIT, Mitchell's, Tin (Fig. 27), . $0 75

Fig. 28.



LAMPS, SPIRIT, Luhme's Pharmaceutical (Fig. 28), $6 00

LINT, best Linen, ... $1 25

Fig. 29.

MARSHE'S ARSENIC APPARATUS (Fig. 29), . $2 50

MEDICINE CHESTS, furnished to order.

MORTARS, GLASS :—

2 oz.	$0 35
4 oz.	0 50
6 oz.	0 75

Fig. 30.

MORTARS, IRON (Fig. 30) :—

No. 1, half-pint,	$0 37
2, pint,	0 50
3, 1½ pint,	0 62
4, quart,	0 87
5, 3 pints,	1 00
6, half-gall.	1 37
7, 1 gall.	2 00

Fig. 31.

MORTARS, WEDGWOOD (Fig. 31) :—

No. 000, 2 oz.	$0 37 each.
00, 3 oz.	0 40
0, 4 oz.	0 50
1, 6 oz.	0 56
2, 8 oz.	0 75
3, 12 oz.	0 88
4, pint,	1 12
6, quart,	1 50
8, half-gall.	2 50

Fig. 32.

NIPPLE GLASSES (Fig. 32), 1 00 doz.

NIPPLE SHIELDS, wooden, 1 25

Fig. 33.

NIPPLE SHIELDS, with gum tip (Fig. 33), $0 25 each.

Fig. 34.

NIPPLE SHIELDS, METALLIC (Fig. 34), $0 20 each.

NURSING BOTTLES, glass, oval, flat, . . . $0 20 each.

Fig. 35. Fig. 36.

NURSING BOTTLES, glass, with Britannia tubes, bent and straight (Figs. 35 and 36), . . $0 37 each.

Fig. 37.

NURSING CUPS (half covered), (Fig. 37), $0 25 ea.

OILED SILK, ... $1 00 yard.

PALETTE KNIVES, see Spatulas.

PAPER, WRAPPING, all kinds.

Fig. 38.

PESSARIES, GLASS, Disk (Fig. 38), . . $2 50 doz.

Fig. 39.

PESSARIES GLASS, Globular (Fig. 39), . 2 50 "

Gum elastic, various kinds.

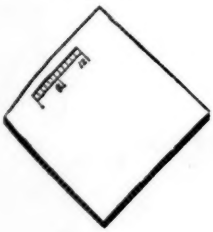
PLASTER IRON, ... $1 00 each.

PLASTERS—Spread, Hemlock, Burgundy Pitch, Warming, and Strengthening:—

No. 1. 4 by 6, ... $1 00 doz.
2. 5 by 8, ... 1 50
3. 6 by 10, ... 2 00

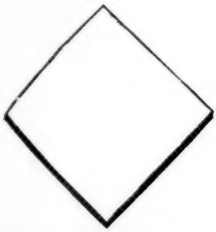
PILL MACHINES, Brass for 12 pills, . . . $$3 50
" " 24 " . . . 5 50

Fig. 40.



TILES, Graduated (Fig. 40), . $0 50 to $1

Fig. 41.



TILES, Plain (Fig. 41), . $0 50 to $1 00

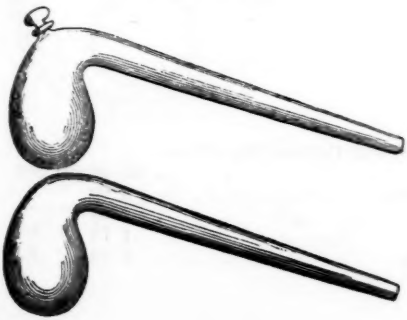
POCKET CASES for Medicines, morocco, containing 10 bottles, . $1 50
POCKET CASES for Medicines, of various sizes, containing from 12 to 24 bottles, ... from $1 50 to $2 50

Fig. 42.

PRECIPITATING JARS (Fig. 42):—

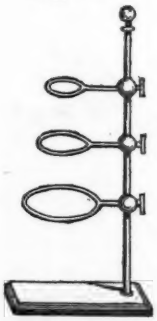
Half gallon, ...	$0 62
Quart, ...	0 37
Pint, ...	0 31
Half pint, ...	0 25

Figs. 43 and 44.



RETORTS, GLASS, Plain and Tubulated, 1 oz. to 1 gallon (Figs. 43 and 44), $0 19 to $1 25

Fig. 45.



RETORT STANDS, Iron, with 3 rings, (Fig. 45), ... $1 50

SADDLE-BAGS furnished to order.

SIEVES, Bolting Cloth, for very fine powders, 7 inch, $0 37

SPATULAS, Steel, English,—

8 inch,	0 50	
7 inch,	0 38	
6 inch,	0 31	
5 inch,	0 25	
4 inch,	0 19	
3 inch,	0 15	

SPATULAS, Porcelain, for Acid Ointments,—

4 inch,	0 31	each.
6 inch,	0 38	"
9 inch,	0 60	"

Fig. 46.

SCALES AND WEIGHTS, Eng., (Fig. 46), . . . $1 25

Fig. 47.

SPECIE JARS, with Covers (Fig. 47):—

1 gallon,	$5 00	per doz.
Half gallon,	3 00	" "
Quart,	2 00	" "
Pint,	1 75	" "
Half pint,	1 00	" "

Fig. 48.

SPECIFIC GRAVITY BOTTLES, holding 1000 Grains of Distilled Water, with Perforated Stopper and Counterpoise Weight, (Fig. 48), ... $3 50

SPEC. GRAV. BOTTLES, holding 100 grains Distilled Water as above, ... $2 00

Fig. 49.

SPEC. GRAV. BOTTLES, holding 1000 grains Distilled Water, without Stopper mark on Neck (Fig. 49), ... $1 50

SHEEPSKINS, various kinds.

SPONGE, Prepared for Surgical use, various kinds.

Fig. 50.

SPERMATORRHŒAL RINGS. (Fig. 50.)

Fig. 51.

SPECULUMS FOR UTERUS,
Glass (Fig. 51), . $0 50 each.
Metallic, . . .

Fig. 52.

SPECULUMS FOR UTERUS, Glass, covered with Silver, and re-coated with Gutta Percha (Fig. 52), . $1 50 each.

SPECULUMS FOR UTERUS,
Coated as above, and with aperture in side, . $1 50 each.
German Silver, Bivalve, . . . 4 00 "
" " " Handles detached, . 4 50 "
" " Trivalve, . . . 5 00 "
" " Quartovalve, ... 9 00 "
" " for Anus, . . . 4 00 "
" " for Ear, ...

Fig. 53.

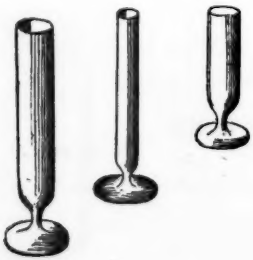
SPITTING CUPS, Queensware, with Movable Tops (Fig. 53), . . $0 50 each.

STETHOSCOPES, Cedar, plain, ... $0 50 each.
" " Ivory mounted, . . 0 75 "
" Ebony, plain, ... 0 62 "
" " Ivory mounted, . . 0 88 "
" Ivory mounted, with Pleximeter, . 1 50 "
STOMACH TUBES, ... 1 00 "
SUSPENSORY BANDAGES, Silk and Cotton, . 0 25 to 0 75 "

Fig. 54.

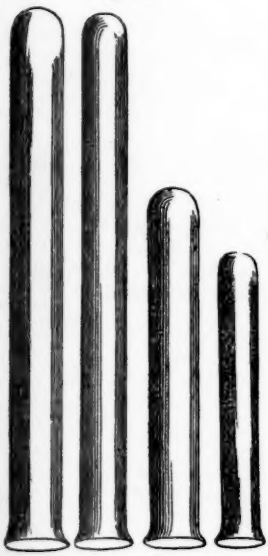
SYRINGES, Glass, Male and Female (Fig. 54).
Metal Capped, Small, . . . $1 25 per doz.
" " Medium, . . . 1 50 " "
" " Large, . . . 2 50 " "
Glass, curved, for Uterus, . . 4 00 " "
" " for Ear, . . . 3 00 " "

Fig. 55.



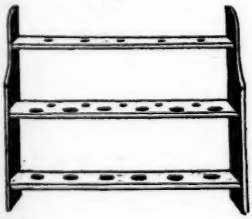
TEST TUBES, ON FOOT,
Large (Fig. 55), . $1 00 each.
Medium, . 0 75 "
Small, . . 0 62 "
Assorted, . 0 75 "
For Arsenic, assorted, 1 00 "

Fig. 56.



TEST TUBES, Glass, Large, (Fig. 56), . $0 75 each.
Medium, . 0 50 "
Small, . . 0 37 "

Fig. 57.



TEST TUBE RACKS, White Wood, for 13 tubes (Fig. 57), $0 75

Fig. 58.

TEST GLASSES, French Pattern (Fig. 58), . $1 00 per doz.

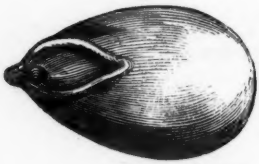
THERMOMETERS, in Japanned Tin Frames,
7 inch, ... $0 62 each.
8 inch, ... 0 75 "
10 inch, ... 0 88 "
12 inch, ... 1 00 "

Fig. 59.

THERMOMETERS, Small, on Ivory Scale, with Bulb projecting below the Scale, graduated from 50° to 140° F. (Fig. 59), . $1 50 each.
Chemical (various kinds), . $2 00 to 6 00 "

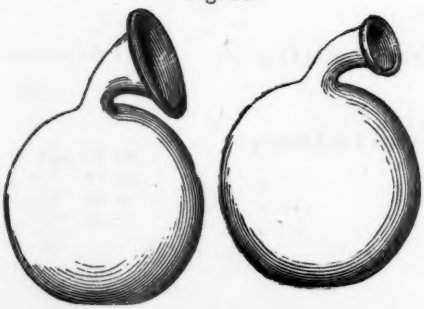
TONGUE DEPRESSERS, Pearl, ... $0 75 each.
TWINE, LINEN, Fine, ... 0 20 per ball.
" " Coarse, ... 0 37 " "
TEST PAPERS, Red and Blue, Litmus and Turmeric, 0 06 per sheet.
URINALS, GLASS, Male, ... 0 38 each.

Fig. 60.



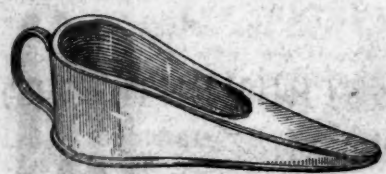
URINALS, GLASS, Female (Fig. 60), . $0 38 each.

Fig. 61.



URINALS, Queensware, male and female (Fig. 61), $0 50 each.

Fig. 62.



URINALS, Female,
Slipper Pattern,
Large (Fig. 62), $1 38 each.
Medium, . 1 25 "

Fig. 63.

URINOMETERS, for ascertaining the Specific Gravity of Urine; Glass, containing a delicate Ivory Scale, very accurate (London), (Fig. 63). . $3 00 each.

Fig. 64.

URINOMETER CASES, containing Urinometer and Graduated Glass for floating it, a delicate Thermometer, and Test Papers, complete (Fig. 64), . $5 00 each.

WATCH GLASSES, for Use as small Evaporating Dishes, $0 75 per doz.
VIALS, Assorted, octagonal, from ½ oz. to 8 oz., in gross boxes, 2 75 per gross.
" " Plain, long, from ½ oz. to 8 oz., in gross boxes, ... 2 25 " "

SURGICAL INSTRUMENTS, ETC.

AMPUTATING.

1 CAPITAL SAW,
1 METACARPAL SAW,
2 CAPITAL KNIVES,
1 CATLINE KNIFE,
1 PAIR ARTERY FORCEPS, with Slider,
1 SCALPEL, Steel Handle,
1 PAIR BONE NIPPERS,
1 TOURNIQUET,
12 CURVED NEEDLES,
1 TENACULUM,

$17 00 each.

In a neat Mahogany Case, Brass mounted.

TREPANNING.

2 TREPHINES,
1 ELEVATOR,
1 HEY'S SAW,
1 SCALPEL, with Raspiter,
1 BRUSH,

$10 00 each.

In a neat Mahogany Case, Brass mounted.

MIDWIFERY.

1 PAIR FORCEPS,
1 VECTIS,
1 CROTCHET,
1 PERFORATING SCISSORS,
1 BLUNT HOOK,

$10 00 each.

In a neat Leather case.

DISSECTING.

6 SCALPELS,
1 SINGLE HOOK,
1 DOUBLE HOOK, with a Joint,
1 PAIR FORCEPS,
1 SILVER BLOW PIPE,
1 PAIR SCISSORS,

$3 50 each.

In a neat Mahogany or Morocco Case.

EYE INSTRUMENTS.

3 KNIVES,
1 IRIS KNIFE,
2 NEEDLES, Curved and Straight,
1 CURETTE AND HOOK,
1 SILVER SPECULUM,
1 PAIR FORCEPS,
1 PAIR CURVED SCISSORS,

$9 00 each.

In a neat Case.

CASE OF EXTRACTING INSTRUMENTS.

WITH IVORY HANDLES.

1 FOX'S SPRING BOLT KEY,
2 PAIR TEETH FORCEPS, Curved and Straight, Double Joints,
1 TOOTH PUNCH,
1 GUM LANCET,

$4 50 each.

In a neat Leather Case.

With Ebony handles, ... $3 75.

POCKET INSTRUMENTS, NO. I.

1 PAIR CROOKED SCISSORS,
1 PAIR STRAIGHT "
1 PAIR DRESSING FORCEPS,
1 PAIR DISSECTING FORCEPS,
1 DIRECTOR,
1 SPATULA,
2 SILVER PROBES,
1 TONSIL FORCEPS,
1 CURVED Probe-Pointed BISTOURY,
1 Large SCALPEL,
1 GUM LANCET,
1 ABSCESS LANCET,
1 TENACULUM,
1 Small SCALPEL,
1 STRAIGHT SPEAR BISTOURY,
1 SILVER FEMALE CATHETER,
1 PHYSICK'S FORCEPS AND NEEDLE,
1 THUMB LANCET,
6 CURVED NEEDLES,

$8 00 each.

In a neat Morocco Case, with a Lock.

POCKET CASES, similar to No. 1, containing a Silver Male and Female Catheter, extra heavy, $10 00 each.

PHLEBOTOMY.

SILVER SPRING LANCET, Button Trigger,	$3 50 each.
" " Lever,	3 00
BRASS " " "	0 75
BRASS HORSE " "	1 50
THUMB LANCETS,	0 38
" French (Charriere's),	0 75
" English Crown (Evan's),	0 75
LANCET PHLEMES,	0 12
IMITATION SILVER SPRING LANCETS,	1 50
" " " Button Trigger,	2 00

AMPUTATING AND TREPANNING.

In one Case, ... $26 00 each.

CUPPING INSTRUMENTS.

1 BRASS PUMP, or EXHAUSTER,
6 CUPPING GLASSES, } $ 3 50 each.

In a neat Mahogany Case.

With German SCARIFICATOR,	$5 50 each.
With American "	7 00 "
CUPPING INSTRUMENTS, as above, with stopcocks to glasses,	4 50 "
" with German SCARIFICATOR,	6 50 "

SURGICAL INSTRUMENTS OF ALL KINDS,
FURNISHED TO ORDER.

MISCELLANEOUS.

SCARIFICATORS, American,	$3 50 each.
" small,	3 50 "
" German Silver,	4 00 "
" German,	2 00 "
OBSTETRICAL FORCEPS, Hodge's,	5 00 "
" " Huston's,	5 00 "
" " Heighton's,	5 00 "
" " Davies',	5 00 "
BRASS CUPPING AND STOMACH PUMP, with Injecting Apparatus and 6 Glasses combined, Mahogany case,	10 00 "
BRASS STOMACH PUMP and Injecting Apparatus combined, in a Mahogany case,	7 00 "
BRASS ANATOMICAL SYRINGE, 36 oz. with 7 pipes,	16 00 "
1 BRASS PUMP and Breast Glass, in a neat Case,	3 25 "
PROBANGS, Bent and Straight,	0 38 "
ANNELL'S SYRINGE for Eye (Silver), with Straight and Bent Gold Paper, in neat Morocco Case,	8 00 "
TONSIL INSTRUMENTS, Physick,	5 00 "
METALLIC SOUNDERS (Mayo's),	0 75 "

METALLIC SYRINGES, BEST QUALITY.

24 oz.	Self-Injecting,	in Cases,	$2 25 each.
16 oz.	"	"	1 50 "
10 oz.	"	"	1 25 "
6 oz.	not Self-Injecting,	in Cases,	0 75 "
24 oz.	"	no Cases,	1 75 "
16 oz.	"	"	1 25 "
10 oz.	"	"	0 75 "
6 oz.	"	"	0 56 "
4 oz.	"	"	0 38 "
2 oz.	"	"	0 31 "
1 oz.	"	"	0 15 "
Maw's Self Apparatus,			2 25 "

METALLIC SYRINGES, MEDIUM QUALITY.

24 oz.	Self-Injecting,	in Cases,	$1 75 each.
16 oz.	"	"	1 25 "
10 oz.	"	"	1 00 "
6 oz.	not Self-Injecting,	in Cases,	0 56 "
24 oz.	"	no Cases,	1 25 "
16 oz.	"	"	1 00 "
10 oz.	"	"	0 62 "
6 oz.	"	"	0 38 "
4 oz.	"	"	0 31 "
2 oz.	"	"	0 25 "
1 oz.	"	"	0 12 "

METALLIC SYRINGES, THIRD QUALITY.

24 oz.	Self-Injecting,	in Cases,	$1 00 each.
16 oz.	"	"	0 88 "
10 oz.	"	"	0 75 "
6 oz.	not Self-Injecting,	in Cases,	0 38 "
24 oz.	"	no Cases,	0 75 "
16 oz.	"	"	0 62 "
10 oz.	"	"	0 50 "
6 oz.	"	"	0 31 "
4 oz.	"	"	0 25 "
2 oz.	"	"	0 20 "
1 oz.	"	"	0 10 "

WOMB SYRINGES, BEST QUALITY.

6 oz.	Ring Handles,	in Cases,	$1 00 each.
6 oz.	Wood "	"	1 00 "
4 oz.	Ring "	"	0 90 "
4 oz.	Wood "	"	0 90 "
2 oz.	Ring "	"	0 75 "
2 oz.	Wood "	"	0 75 "
Doctor Chase's Vagina,		with Cases,	1 12 "
Female,			0 15 "
Male,			0 10 "
Ear,	with Ivory Pipe,		0 31 "

Fig. 65.

SYRINGES, FRENCH, SELF-ACTING. The liquid is introduced at once into the Syringe, dispensing with any other vessel. The force, quantity, and direction of the current is regulated by the stop-cock and flexible tube at the bottom (Fig. 65).

No. 1. Contents 12 oz.,	$5 00	each.
2. " 20 oz.,	6 00	"
3. " 30 oz.,	7 00	"

SKELETONS.

IN NEAT BOXES, WITH LOCK AND KEY.

SKELETONS, Articulated and Bleached,	$40 00	each.
SKELETONS, Articulated, not Bleached,	30 00	"
SKELETONS, Disarticulated and Bleached,	20 00	"
SKELETONS, Disarticulated, not Bleached,	15 00	"
HEADS—Sawn and furnished with movable Articulations. The sections exhibiting the Nasal, Frontal, and Sphenoidal Sinuses, and the Antrum Maxillare. Also, the Internal Ear, with apparatus, bones, muscles, memb. tympani, nerves and vessels. A complete and beautiful preparation,	18 00	"
HEADS—Disarticulated. The bones separated, and contained in the compartments of a pasteboard box,	10 00	"
HANDS and FEET Articulated on Catgut. The bones can be separated on the strings, so as to admit of the inspection of each. By drawing the string they are all brought into position,	2 50	"
FEMALE PELVIS, with Ligaments,	10 00	"
FŒTAL HEADS,	2 00	"

ANATOMICAL PREPARATIONS

OF ALL KINDS, IMPORTED TO ORDER.

We subjoin a list of a few, with the cash prices for importing to order. When the order amounts to one hundred dollars or more, it will be imported immediately, otherwise it will be retained on hand until we are getting other goods from Paris, which will probably be several times a year.

HEADS, entire, Articulated,	$5 00 to $8 00
" " Disarticulated,	6 00 to 10 00
" " " and remounted with the bones separated by short intervals (style Beauchene),	50 00

HEADS, Sawn, with preparations of internal and middle ear,	$15 00
" " with horizontal and vertical Sections,	8 00
Preparation of the INTERNAL EAR,	5 00
" " MIDDLE EAR,	3 00
14 TEMPORAL BONES, demonstrating the History of the Ear,	55 00
FEMALE PELVIS, with Ligaments,	8 00 to 10 00
FŒTAL HEADS,	2 00
HANDS or FEET, Articulated,	1 50 to 2 00
" " (style Beauchene),	6 00
FŒTAL SKELETONS,	7 00
Series of nine FŒTAL SKELETONS,	50 00
HISTORY OF DENTITION, from the fœtal conditions to old age, exemplified by 22 Preparations under Glass,	150 00
JAW in Childhood, from 1st to 2d Dentition,	6 00 to 8 00
TEETH, Natural, a Complete Set, Wired,	6 00 to 8 00
PHRENOLOGICAL HEADS (Natural),	7 00 to 8 00
HEADS OF CHILDREN during 1st and 2d Dentition,	8 00
SAWN HEADS, upon Supports, under Glass,	10 00
FŒTUS, Disarticulated, within a Frame,	10 00
MANIKINS, for the Study of the Mechanism of Labor,	30 00 to 50 00
HEADS, with Nerves, Arteries, and Veins,	60 00
HALF FACE, Vertical Section, with 5th pair of Nerves,	10 00
" " Arteries, Internal Maxillary,	10 00
EAR, with its Dependencies, Nerves, and Vessels,	10 00
HEAD, with Preparations of the Dura Mater,	10 00

AN ASSORTMENT OF THE SKELETONS OF ANIMALS.

HEADS OF ANIMALS, Disarticulated and Mounted, in the style of Beauchene, &c., &c.

CHESTS containing a complete set of PURE CHEMICAL REAGENTS, with the necessary Apparatus for Chemical Analysis.
Also, CHESTS for TOXICOLOGICAL Research, arranged to order.

Terms, CASH, with 5 per cent. discount, or Credit with approved reference.

MAGNETO-ELECTRIC MACHINES,

FOR

MEDICAL PURPOSES.

THESE machines operate without acids. The power is derived from a permanent magnet, and can be regulated from a weak current to one of an intensity sufficient for all medical purposes.

The machine operates simply by turning a crank. The electric current is applied by means of flexible wires connecting with insulated handles.

These batteries are the most approved form in use; they have received the sanction of the professors of most of our medical schools, and are used by many of our eminent city practitioners.

In cases of Neuralgia, Rheumatism, Paralysis, and Narcotic Poisoning, they have been eminently successful.

The batteries are contained in a neat mahogany box, with lock and key.

PRICE $10 NETT.